15253

FEDERAL EXPRESS

August 7, 1985

Mr. John Oaks
U.S. Environmental Protection
Agency - Region V
Waste Management Division
Hazardous Waste Enforcement Branch
CERCIA Enforcement Section
230 South Dearborn Street
Chicago, Illinois 60604

RE: Miami County Incinerator Landfill, Troy, Ohio; EPA Ref. No. 5HE-12.

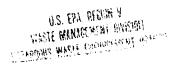
Dear Mr. Oaks:

I. Introduction

This will acknowledge receipt on July 8, 1985, of your letter of July 3 concerning the Miami County Incinerator Landfill located near Troy, Ohio.

Your letter requests an indication of whether Kimberly-Clark Corporation's ("Kimberly-Clark" or the "Corporation") Brown-Bridge Division ("Brown-Bridge") is willing to participate in a "voluntary" clean-up of the referenced site. The letter further asks whether Brown-Bridge representatives will attend an Environmental Protection Agency ("EPA" or the "Agency") meeting concerning the site to be held August 9 in Chicago and finally requests certain data concerning Brown-Bridge's use of the Miami County facility. Our answers are set out below.

In submitting its response, Kimberly-Clark does not waive, nor does it intend to waive, any rights the Corporation may have to challenge actions taken by EPA or any other party with respect to the Miami County Incinerator site. Kimberly-Clark further expressly denies that any of its disposal activities involving the reference have violated applicable provisions of Federal State, or local law.



II. Willingness to Participate In Voluntary Clean-Up/ Attendance at EPA Meeting

Kimberly-Clark has a longstanding commitment to environmental protection, and the Corporation has in the past voluntarily participated in clean-ups conducted pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCIA"). Under appropriate circumstances, Kimberly-Clark would again be willing to consider participation in such a clean-up at the Miami County Incinerator site. At the present time, however, we do not feel that enough information has been made available by EPA identifying users of the site, specifying volumes or types of wastes disposed of, outlining actual hazards at the site, or detailing potential remedial actions and their likely costs to permit us to intelligently decide whether to participate in a voluntary clean-up.

Representatives of Kimberly-Clark will attend EPA's scheduled August 9 meeting in Chicago concerning the Miami County Incinerator site. We trust that this meeting will provide at least preliminary answers to the questions raised above.

III. EPA Data Requests

Attached hereto are Kimberly-Clark's responses to the data requests included in EPA's July 3 letter.

In reviewing this submittal, several points should be kept in mind.

- Consistent with established corporate records retention guidelines, Brown-Bridge no longer has any files relating to individual shipments made to the Miami County site. A few records relating to Mill solid waste disposal practices in the pertinent time frame are available, and copies are attached as Exhibit 1.
- 2. In the absence of detailed records, it has been necessary to estimate both periods of usage and quantities of wastes sent to the Miami County site. The data presented represents our best judgement in both areas, but we are obviously not able, ten or more years after the fact, to guarantee the accuracy of these figures.
- 3. Five waste streams have been identified as sent to the Miami County Incinerator site during the period that this landfill

was in operation (January 1, 1968 - October 31, 1978). Each of these wastes is briefly described below:

- A. <u>Nonhazardous Waste Papers and Lumber</u>. These wastes, consisting principally of paper trim, office wastes, waste pallets and the like, were sent to Miami County from 1975 to 1978. Prior to this time, these materials were incinerated at Brown-Bridge.
- B. Nonhazardous Powder Wastes. This waste from Brown-Bridge's heat seal paper coating operations was also landfilled at Miami County, likely for the entire 10-year life of the site. This material consisted principally of ground plasticizer powders.
- C. Nonhazardous Incinerator Ash. This waste was produced by the Mill's onsite incinerator between 1968 and January, 1975. This unit was used to burn Brown-Bridge's paper and lumber wastes (i.e., the wastes noted in Paragraph A).
- D. Solvent Coater Liquid Wastes. Brown-Bridge produces what are called dry gummed label papers used for such items as carton labels and stamps. Again, several hazardous waste constituents (principally industrial solvents) are present in small amounts.
- E. Heat Seal Coater Waste Sludge. Brown-Bridge also produces a variety of products used as label stock for items such as packaged meats, bakery goods, and pharmaceutical containers. The uncured coating waste from this process contains certain hazardous constituents which are present in small quantities.

In terms of overall volumes, by far the largest percentage of Mill wastes sent to Miami County (70 percent) consisted of nonhazardous paper and other similar wastes. More detailed information on each waste stream is set out in Exhibit 2. Exhibit 3 contains supplemental data specifying the principal constituents of the 5 identified waste types.

Exhibit 2 also identifies the 4 haulers used by Brown-Bridge between 1968 and 1978 who are known to have transported wastes to the Miami County site. Exhibit 4 supplements this information with previous and current addresses for each hauler.

Question 7 of EPA's request asks for information concerning Kimberly-Clark's insurance coverage potentially applicable to an Agency-mandated clean-up of the Miami County site. In the time available, it has not been possible to reach any conclusions concerning the extent of such insurance coverage. At the moment, we can say only that, during the pertinent time period, Kimberly-Clark did have general liability insurance including coverage for some environmental hazards. The extent to which that coverage would ultimately be held to include clean-up costs at a site such as the Miami County Incinerator simply cannot be determined given the limited facts now available about actual hazards at the site, likely clean-up costs, and the roles of the various parties involved.

IV. Data Request to EPA

To facilitate determination of whether it would be appropriate for Kimberly-Clark to participate in a voluntary clean-up of the Miami County site, the following information is requested from EPA:

- 1. Copies of all shipping documents or other information now available to EPA and/or any Agency contractor related to use of the Miami County site by Brown-Bridge Mills. Please also include any data available to EPA concerning the nature of Brown-Bridge wastes sent to this site.
- 2. A complete listing, including full names and business addresses, of all persons, firms, and governmental entities which EPA now considers candidates for classification as potentially responsible parties ("PRPs") within the meaning of CERCIA with regard to the Miami County site.
- 3. A copy of EPA's 1984 TechLaw Study, and any subsequent update reports, concerning volumes and types of waste deposited by individual parties at the Miami County site.
- 4. Copies of all draft or final reports and/or technical studies now available to EPA as a result of the Agency's ongoing Remedial Investigation/Feasability Study of the Miami County site.

Please consider this request as formally made pursuant to the Freedom of Information Act ("FOIA") and EPA's implementing regulations related thereto. Consistent with the FOIA, we would appreciate the Agency's prompt response to each of the above

requests. Kimberly-Clark will be happy to bear any copying or other processing expenses incurred by EPA in responding to our request.

V. Conclusion

Further information concerning this submittal may be obtained from Mr. M. V. Reynolds, Brown-Bridge's Plant Engineer, at (513) 339-0561 or K. A. Strassner, Kimberly-Clark's Counsel-Roswell Operations, at (404) 587-8634.

Very truly yours,

G. C. Thorstood/cb

Mill Manager

Enclosures

LIST OF EXHIBITS

| Exhibit 1 | Records Relating to Brown-Bridge Solid Waste Disposal Practices (January 1968 - October, 1978) |
|------------|--|
| Exhibit 2 | Brown-Bridge Wastes Sent to the Miami County Incinerator Landfill |
| Exhibit 3 | Principal Components of Brown-Bridge Wastes Sent to the Miami County Incinerator Landfill |
| Exhibit 3A | Solvent Coater Liquid Wastes |
| Exhibit 3B | Heat Seal Coater Waste Sludge |
| Exhibit 3C | Other Brown-Bridge Wastes |
| Exhibit 4 | Previous and Current Addresses of Haulers Used by Brown-Bridge To Transport Waste Materials to the Miami County Incinerator Landfill |

Exhibit 1

Records Relating to Brown-Bridge Solid Waste Disposal Practices (January 1968 - October, 1978)

State of Ohio

450 East Town Street
P.O. Box 118
Columbus, Ohio 43216



Department of Health

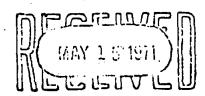
Brown Bridge Mills, Inc. E. Water Street Troy, Ohio 45373

Dear Sir:

The Federal Air Quality Act of 1970 (PL 91-604) places certain obligatory actions upon the State of Ohio relative to federally designated air quality control regions encompassing land areas in Ohio. The State (Ohio Air Pollution Control Board) must adopt a plan for the implementation, maintenance, and enforcement of the national primary ambient air quality standards.

If State standards and implementation plans are to be developed which are economically reasonable and technically feasible and if a value judgment is to be made in accordance with local needs and realities - it is essential that the Ohio Air Pollution Control Board acquire a great diversity of technical intelligence information. The required detailed information includes meterological, climatological and aerometric data; economic, urban growth, demographic and development data; health and damage data; political, legislative and judicial data. While all of the above data classes are important, the most essential segment of the data base is that related to emission sources and emission controls.

Regional Emission Inventory - The inventory of air pollution sources and emission strengths within a region provides the basic groundwork upon which immediate and future air conservation plans and activities can be equitably formulated, established and implemented. The attached two-part questionnaire seeks to obtain this very vital, basic and all-important information.



The knowledge and information about your particular installation is most essential. Accurate industry information is needed, so that each source may be placed in its proper perspective in relation to other sources, including transportation, domestic activity, refuse disposal, natural sources, etc.

We urgently request your cooperation in completing the questionnaire and returning it at your earliest possible opportunity. Please feel free to supply such additional information or comments as you may desire.

Your interest, cooperation and early attention will be sincerely appreciated.

Very truly yours,

JACK A. WUNDERLE Engineer-in-Charge Air Pollution Unit Division of Engineering

JAW:ls

Enclosures

July Hod

INVENTORY OF AIR CONTAMINANT FMISSIONS

INSTRUCTIONS FOR COMPLETING QUESTIONNAIRE

GENERAL

- 1. All information to be based on latest annual data. Specify the base year used.
- Complete all sections of the form that pertain to your firm.
 The pink copy may be retained for your file.
- 3. The small letters in each column refer to the footnotes on page 2. Please utilize these in answering each section.
- 4. If emission rates are available from measurements or computations, they should be included in the appropriate columns, along with supporting data. If emission data is unavailable, the emission column may be left blank. In such case, emissions will be calculated by the engineering staff of the State of Ohio, based upon data supplied. Calculations and factors utilized in determining final emissions will be forwarded to the originator of each questionnaire upon request.
- 5. If there is more than one plant location, please indicate totals for each location.
- 6. Please return the completed questionnaire within ten working days to:

mike ace county.

Air Pollution Unit
Ohio Department of Health
1147 Chesapeake Avenue
Columbus, Ohio 43212

If there are any questions, please contact the above by phone or mail. Telephone: (AC 614) 469-2390.

Section I

- 1. This section refers to the total amount of fuel consumed on the premises. List the quantities of fuel consumed as designated by Footnote a. If there is more than one plant location, list fuel consumption for each location.
- 2. When estimating the percentage of fuel consumed for process heat, include power generation in the category.
- 3. Column E should be completed regardless of the type or quantity of fuels consumed.

Section II

- 1. This section refers to the total quantity of refuse generated on the premises. Please estimate the amount of refuse produced regardless of the method of disposal. (Column B)
- 2. If air pollution control equipment is being utilized on disposal equipment, please indicate type and efficiency of the control equipment.
- 3. If off-site disposal is used, please indicate name of hauler and location of disposal site.

Section III

- 1. This section refers to the quantity of material processed or used to produce the items manufactured by your establishment.
- 2. Please indicate in Columns A, B and C, the types of processes, the types of materials used in these processes, and the amounts of these materials utilized on an annual basis; for example, the amounts of limestone, sand, coal and blast furnace dust used to produce cement.
- 3. Any process descriptions, equipment types, flow charts, etc. that will assist in calculating process losses should be included.

Stack Data

- 1. This section refers to any stacks, vents, fan or blower discharges, conduits or openings through which discharge emissions from any source listed in Sections I through III above.
- 2. Please list all stacks on the premises and identify which sources are vented from the stack in the column titled "Sources Vented".
- 3. If test values are not available, please show design, calculated or estimated values and indicate as such.

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| Person to contact | regarding this re | eport <u>J</u> <u>E</u> . | F. S | 1. | | Ti | tle Shoo. 1 | rein to | _ Phone | 7/3) 523 | 2-1266 |
| Mailing address_ | | Ly alex | <u> 51, </u> | | | <u> </u> | | | | | |
| | | . water | | _ | ····· | · | | | | | |
| Nature of busines | s (Products) | Gummed | المارد) | M. | | Standard Indust | trial Classificatio | on Code 2 d | 541 | | |
| Employees at plai | nt location | 367 | | ll seasonal, giv | e range | | ··· | + | | | |
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| Sources | Size of | 1 - 1 | | | Fuel data (D) | · | | Air cleaning | equipment | Estimate of co | ontaminants 00 |
| or No. of boilers (4) | unit (input) ⁽⁸⁾ 10 ⁶ Btu/hr. | Type unit (C) | Type fuel ^(E) | Amount per year ^(F) | Heat Content (G) Btu | Percent sulfur (G - H) | Percent ash (coal only) (G-1 | Type (I) | Efficiency (J) % | Type (K) | Quantity (2) |
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| Normal on-site co | ombustion operati | ing schedule | : | _Hours per day | <u> </u> | Days per | week | Wee | ks per year . | 2524 | days/3/1. |
| Seasonal and/or | peak operation p | eriod (Specify) | | | | | | | | | 1 1 2 |
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| | Waste material | <u> </u> | | of disposal | Incinerator | Auv | iliary | Type and efficient | :y <u>Ε:</u> | stimate of contam | 1 |
| Type (| , נאר | Amount per year (F) | | e on paye 2) | capacity, lb/hr | • | sed (O) | air cleaning equipment (I — J. | , | Type ⁽¹⁰⁾ | Quantity per year (1.) |
| | 15 : | 5 | San Carrie | tom 140 S | 2000 Il- | 16 5 | · 70 / | ret wash. | | , ash | |
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| Processes or operations releasing contaminants | • | s processed and/or at operations | · · | intity of gas charged from | Type and efficiency air cleaning | Estimate | of contaminants (M | Easis of estimate |
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Days per week

Weeks per year

..... Hours per day

Normal operating schedule

KIMBERLY-CLARK CORPORATION AND AFFILIATES

| • | Y CODE 463 CURRENCY UNITS U. S. | • | SCHEDULE 3-G ENVIRONMENTAL | |
|-------|---|-----------------------------|--|-------------------------|
| YEAR | TO-DATE FOR THE PERIOD ENDED 12/31/77 | | • | PROTECTION COST |
| mer/ | MEDRY C. B. R. | DATE 1/30/78 | • | |
| REVIE | WED BY | DATE 1/30/78 | | • |
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| | COLUMN REFERENCE: | A | 8 | c |
| LINE | · . | CAPITAL EXPENDITURES (1) | OPERATING AND MAINTENANCE EXPENSES (2) | RESEARCH EXPENSE (3) |
| 1 | AIR | o | 60 | 0.5 |
| 2 | WATER | 0 | 0.3 | 0 |
| _3 | SOLID WASTE | 0 | 66.3 | 0 |
| 4 | NOISE | 0 | 0 | 0 |
| 5. | CURRENT YEAR TOTAL | | 126.6 | 0.5 |
| | COST ESTIMATI | E FOR FIRST SUBSEQUENT | YEAR | |
| Ŀ | AIR | 0 | 66 | 0.6 |
| 1 | WATER | 0 | <u> </u> | 0 |
| Ŀ | SOLID WASTE | 0 | 72 : | 0 |
| L. | NOISE | 0 | -6 | 0 |
| 10 | TOTAL - FIRST SUBSEQUENT YEAR | | 138.4 | 0.6 |
| | COST ESTIMATES FOR SEC | OND THROUGH FIFTH SUB | SEQUENT YEARS | |
| 11 | TOTAL - SECOND SUBSEQUENT YEAR | 0 | 370 | 3.4 |
| 12 | TOTAL - THIRD SUBSEQUENT YEAR | 0 | 2 | 0 |
| 13 | TOTAL - FOURTH-SUBSEQUENT YEAR | 0 | 403 | |
| 14 | TOTAL - FIFTH SUBSEQUENT YEAR | 0 | 775 | 3.4 |
| KC 86 | 10.32 C | | | |

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KIMBERLY-CLARK CORPORATION AND AFFILIATES

| | | | COUEDINE 2 O | | | |
|--|-----------------------------|--|-------------------------|--|--|--|
| ENTITY CODE 463 CURRENCY UNITS U. S. S | | SCHEDULE 3-G ENVIRONMENTAL | | | | |
| YEAR-TO-DATE FOR THE PERIOD ENDED 12/31/77 | | | | | | |
| PREPARED BY C. B. R. D | ATE 1/30/78 | | | | | |
| REVIEWED BY D | ATE 1/30/78 | · | | | | |
| | | | | | | |
| COLUMN REFERENCE: | STS FOR CURRENT YEAR | <u> </u> | С | | | |
| LINE | CAPITAL EXPENDITURES (1) | OPERATING AND MAINTENANCE EXPENSES (2) | RESEARCH EXPENSE (3) | | | |
| 1 AIR | 0 | 60 | 0.5 | | | |
| 2 WATER | 0 | 0.3 | 0 | | | |
| 3 SOLID WASTE | 0 | 66.3 | 0 | | | |
| 4 NOISE | 0 | 0 | 0 | | | |
| | 0 | 126.6 | 0.5 | | | |
| COST ESTIMATE I | OR FIRST SUBSEQUENT | YEAR | | | | |
| 6 AIR | 0 | 66 | 0.6 | | | |
| 7 WATER | 0 | .0.4 | 0 | | | |
| 8 SOLID WASTE | 0 | 72. | 0 | | | |
| 9 NOISE | 0 | | 0 | | | |
| 10 TOTAL - FIRST SUBSEQUENT YEAR | 0 | 138.4 | 0.6 | | | |
| COST ESTIMATES FOR SECON | ND THROUGH FIFTH SUBS | SEQUENT YEARS | | | | |
| 11 TOTAL - SECOND SUBSEQUENT YEAR | 0 | 370 | 3.4 | | | |
| 12 TOTAL - THIRD SUBSEQUENT YEAR | 0 | 2 | 0 | | | |
| 13 TOTAL - FOURTH SUBSEQUENT YEAR | 0 | 403 | - 0 | | | |
| 14 TOTAL - FIFTH SUBSEQUENT YEAR | 0 | 775 | 3.4 | | | |

To Elmer Dickson

Director of Occupational Safety and Health

1/11/78

RE: OHIO 1977 INDUSTRIAL WAST MANAGEMENT SURVEY

Here is a copy of our response to subject survey.

77. IT. Gallighi-

Nick Gallagher Technical Director

cc: J. S. Rausch

NDG/11b



Battelle Columbus Laboratories 505 King Ave. Columbus, Ohio 43201

Attn: Ms. Shirley J. Smith Researcher

Dear Ms. Smith:

Here is our response to the 1977 Industrial Waste Management Survey you provided to us under a covering letter of December 7, 1977.

Sincerely

N. D. Gallagher Technical Director

cc: J. S. Rausch

NDG/11b

Ohio 1977 Industrial Waste Management Survey

I. General Information

| | | - | | | | |
|----|------------------------------------|----------------|-------------|--------------|------------------|------------------|
| 1. | Company Name: Brown | -Bridge. A Div | vision of K | imberly-Cla | rk Corporat | ion. |
| 2. | Mailing Address: p. | 0. Box 370 | Tr | oy, Ohio | · <u> </u> | 45373 |
| | St | reet | | City | | Zip Code |
| 3. | Plant Location: 51 | 7 E. Water St. | Tr | oy, Ohio | Miami | 45373 |
| | | reet | | City | County | Zip Code |
| 4. | Person Responsible | for | | | | |
| | Plant Operations | Roger E. | Yount | | | |
| | | Name | | | | |
| | | Operation | s Manager | 513-339 | -0561 | EXT. 251 |
| | 4 | Title | | - | Phone | |
| 5. | Person Providing | | | | | |
| | | N. D. Gallaghe | er | | | |
| | | Name | | | | |
| | | Research Direc | tor | _513-3 | 39-0 <u>56</u> 1 | EXT. 220 |
| | - | Title | | | Phone | |
| 6. | Principal Products | and Their Sta | ndard Indu | strial Class | sification (| Codes (SIC): |
| | Products | | sic | Amo | ount or % o | f Total Producti |
| | a Adhesive coated p film and fo | i l | 26-41 | · | 100 | |
| | b. | | | | | |
| | c | | | | | |
| | d | | | | ····· | |
| 7. | Processes Used at | Plant: | | • | | |
| | Product | Pr | ocesses | | | |
| | a. Water-sensitive | adhesive coati | ngsAqueo | us and solve | ent coating | • |
| | b. Heat-sensitive a | dhesive coatir | igsAqueo | us and hot- | melt coatin | 9• |
| | c. Pressure-sensiti | ve adhesive co | atingsAq | ueous and he | ot-melt coa | tings. |
| | d | | | · | | · |
| | | | | | | |

| 8. | Raw | Materials and Other Chemicals Used in Manufacturing Processes: |
|-----|-------------|--|
| | aF | Paper, Cloth, Film and Foil e. Solvents, Plasticizers DCHP DPP |
| | b. <u>E</u> | mulsion polymers f. Animal glues |
| | c] | hermoplastic resins g. Clays, Stabilizers and Process aides. |
| | dS | tarches, dextrines h. Solution polymers. |
| II. | Tre | atment Facilities |
| | 1. | On-Site Wastewater Treatment Facilities: Yes NoX |
| | | a. NPDES No.: 0H 0010626 |
| | | b. On-Site Wastewater Treatment Facilities by 1983: Yes NoX_ |
| | 2. | Industrial Municipal Discharge: Yes X No |
| | | a. Name of Plant: Troy Municipal Plant |
| | | b. Pretreatment: Yes X No |
| | | c. Industrial Municipal Discharge by 1983: Yes X No |
| | 3. | Air Pollution Control Facilities: Yes X No |
| | | a. Types: Carbon absorption solvent recovery. |
| | | b. Air Permit Nos.: 0855140083P001, 0855140083P002 |
| | | c. Air Pollution Control Facilities by 1983: Yes No |
| | 4. | In-House Waste Treatment Capabilities: Paper balers, solid plasticizer |
| | | recovery unit. |
| | | |

| | 5. | Is there any curren on plant property?: | Yes No | | ill, dump, or lagoon |
|------|-----|--|---------------------------------|--------------|--|
| | | | Currently Used | | Abandoned |
| | | a. Landfill | | | |
| | | b. Dump | | | |
| | | c. Lagoon | | | |
| | 6. | Attach sketch of tre site inspections onl | | es including | storage areas. (For |
| III. | Sto | rage Area Practices | | | |
| | 1. | Area Diked: Yes | (No | | |
| | 2. | Drainage Collection | System: Yes | X No | _ |
| IV. | Off | -Site Disposal | | | |
| | 1. | Waste hauled off sit | e by: You | _ Others | <u> </u> |
| | 2. | Contract hauler util | ized: | | |
| | | Name | A | ddress | |
| | | a Commercial Waste Re | moval Inc.* | Piqu | a, Ohio |
| | | b Sussman Inc. ** | | Piqu | a, Ohio |
| | | cRaymond Ferguson 🕾 | | | , Ohio |
| | 3. | Avey Service Inc. * Private Contractors | | • | , Ohio |
| | ٦. | Name | _ | ddress | otilized. |
| | | | | deress | |
| | | a.* Waste solvent ar | id sludge | | |
| | • | b.** Waste paper | | | |
| | ₹ | c.*** Scrap lumber. | <u>waste pl</u> astici <u>z</u> | er powder | |
| • | 4. | | | | al waste in Tables I and miles (please round to |

V. Costs

| ı | | Total internal expenditures for industrial waste management function (include and operation costs for processing, storage, collection and disposal ex. capital) | |
|----------------------|------|---|----|
| 53 Bill | _ | \$ 115,000 /Year | |
| 60 m fer Til silv | 2. | \$ 115,000 /Year Total annual return from internal salvage: \$ 85,200 /Year | |
| 1129. SOLI | 3. | Total annual charges by external industrial waste handlers: (total dollars/year) (a) Contract haulers: \$ 11,292 (b) Private landfill operators: \$ (c) Municipal refuse col- | |
| 337 | 4. | Total annual return from external salvage: \$ 28,000 /Year | |
| | | If your company utilizes outside contractors, do you feel that your total costs for handling and processing your industrial wastes are: | |
| | | (a) Reasonable X | |
| | | (b) Moderately expensive | |
| | | (c) Excessive | |
| <u>vi</u> | . Ir | dustrial Waste Exchange Program and Waste Treatment Centers | |
| | 1. | Do you feel your company would use the services provided by an industria waste exchange program? Yes X No | 11 |
| | 2. | Do you feel that there is a need for regional energy recovery, recycling and industrial waste treatment centers?: Yes X No | ;, |
| | | | |

| | | | | | Table | le I | | | | | | |
|---|----------|-------|-----------|----------|------------------------------|-----------------|-------------------|------------------------------|----------------------|--|--------------------------------|-------------------------|
| Waste Type | Physical | S | tate | Fr | Frequency of W Production | y of luction | Waste | Б | On-Site Tr | Treatment Employed | 5mp loyed | |
| | Liquid | Solid | Sludge | Seasonal | Continual | Occasional | Other (Specify | Precipitation Neutralization | Evaporation Chemical | Oxidation or Reduction Recipitation by | Recycling or Waste Recovery | Biological Oxidation |
| 01. Pesticides | | | | | | | | | | | | |
| 02. Acids | | - | | | | | | | | | | |
| 03. Caustics | | | | | | | | | | | | |
| 04. Pickle liquors | | | | | | | | | | | | |
| 05. Metals* | | | | | | | | | - | | | |
| 06. Mercury compounds | | | | | | | | | | | | |
| 07. Cyanides | | | | | | | | | | | | |
| 08. Phosphorous compounds | | | | | | | | | | | ` | |
| 09. Halogenated hydrocarbons | × | | × | | × | | | | | | | |
| 10. Non-halogenated hydrocarbons | × | | × | | d _V /x | Approx. | 144,000 | 1b/yr. | _ | | | |
| 11. Solvents | × | | × | | × | | | | | | | |
| 12. 011s | | | | | | | , | | | | | |
| 13. Plastics | | | | | | | | | | | | |
| 14. Resins | | | | | | | | | | | | |
| 15. Paints | | | | | | | | | | ٠ | | |
| 16. Explosives | | | | | _ | - | | | | | | |
| 17. Radioactive materials | | | | | | _ | | | | | | |
| 18. Pathogenic materials | | | | \dashv | | | | | | | | |
| 19. Fluorides | | | | | _ | | | | | | | |
| 20. Other inorganic materials | | | | | | - | | | | | | |
| 21. General | | | | | | | | | | | - | |
| * | - | - . | - | - 1 | - ; | - 1 | ı | | - 1 | | | |
| Chromium, manganese, nickel, zinc, arsenic, | c, arse | nic, | selenium, | | silver, | | cadmium, ant | antimony, | gold, pla | platinum, a | and lead | compounds. |

Projection By 1983 Chromium, manganese, nickel, zinc, arsenic, selenium, silver, cadmium, antimony, gold, platinum, and lead compounds. None None None Waste % Decrease % Increase n-Site Storage Stored Time Months Weeks × Days Lagoons Tanks Drums Other (Specify) Land Spreading (lbs/yr) Incineration (lbs/yr) Disposal Practices Landfill (cu. yds./yr) Lagoons or Ponds (gal/yr) Discharged to 358,000 ga1/yr Approx process wash up sewade. Municipal System (gal/yr) 3**5**8,000 gall/yr Corporate Wastewater Treatment **Facilities** (gal/yr) Off-Site × × On-Site Non-halogenated hydrocarbons materials Halogenated hydrocarbons Phosphorous compounds Radioactive materials Pathogenic materials Mercury compounds Other inorganic Pickle liquors Waste Type Pesticides Explosives Fluorides Caustics Cyanides Solvents Plastics General Metals Paints Resins Acids 011s 16. 08. 2 8

Table 11

Estimate of costs for recordkeeping and administration of waste disposal programs.

| Secretary time to prepare manifest | 20 hours/yr. |
|------------------------------------|--------------|
| Secretary filing | 10 hours/yr. |
| Secretary recordkeeping | 10 hours/yr. |
| Technician time for monitoring | 40 hours/yr. |
| Administration | \$1,000 |



James A. Rhodes GOVERNOR

30 East Broad Street 34th Floor Columbus, Ohio 43215
(614) 466-1805 Confine for the first of the

28482541 KIMBERLY-CLARK CORP 517 E WATER ST TROY ≠DH 45373

Attention: Operations Manager

Gentlemen:

This is a request for your participation in an industrial waste utilization study being conducted by Systems Technology Corporation under contract with the Ohio Department of Energy. The result will be a source of statewide information for both producers and potential users of waste for recovery of energy and saving of such nonrenewable fuels as oil and natural gas.

All information provided will be confidential and your specific data will not be disclosed. The Department of Energy will aggregate the data and rele se it in that form.

The questionnaire enclosed has been designed to reduce your effort in supplying the information we need. Approximate or estimated volumes will be sufficient if exact numbers are not readily available; more important are identification of the categories of waste produced. If you are uncertain about this point, please write "question" in the comment area and you will then be contacted for helping us prepare the necessary information.

Please complete the form as fully as possible, using non-quantitative terms such as "two small truckloads per day" if amounts are unknown. You will be contacted by telephone to clear up doubts concerning exact form and quantity of your waste which is important in the completion of this study.

We believe that this project by Systech will provide Ohio industries with information useful in their efforts to conserve energy and reduce operating costs. Your participation is valued and will be appreciated.

Sincerely,

Cohet S. Ryan)

Enclosure:

2h Kisin 1978



specialists in environmental technology

SYSTEMS TECHNOLOGY CORPORATION

245 North Valley Road Xeriia, Ohio 45385 Area Code 513/372-8077 Dayton Toll Free 429-2533

INSTRUCTIONS FOR INDUSTRIAL WASTE QUESTIONNAIRE

- 1. Area code and telephone number of preparer.
- 2. Name and title of preparer.
- 3. Number of employees (only it different than 1979 Ohio Industrial Directory).
- 4. Annual total expenditure in dollars (no cents) by plant personnel for waste disposal.
- 5. Annual total expenditure in deltars (no ceass) for disposal contracts (include hauler and disposal site fees).
- 6. Annual special costs -- please describe.
- 7. Energy types utilized at plant -- ; reentage if possible.
- 8. Annual cost of energy consumed in dollars (no cents).
- 9. Waste description -- Waste materials which may be converted to energy are of prime importance in this survey.
 - 1. Oils
- 2. Solvents
- 3. Resins
- 4. Paints

- 5. Paper
- 6. Wood
- 7. Textiles
- 8. Food

- 9. Chemicals 10. Chem 13. Other (please describe)
- 10. Chemical mix 11. Rubber
- 12. Plastics

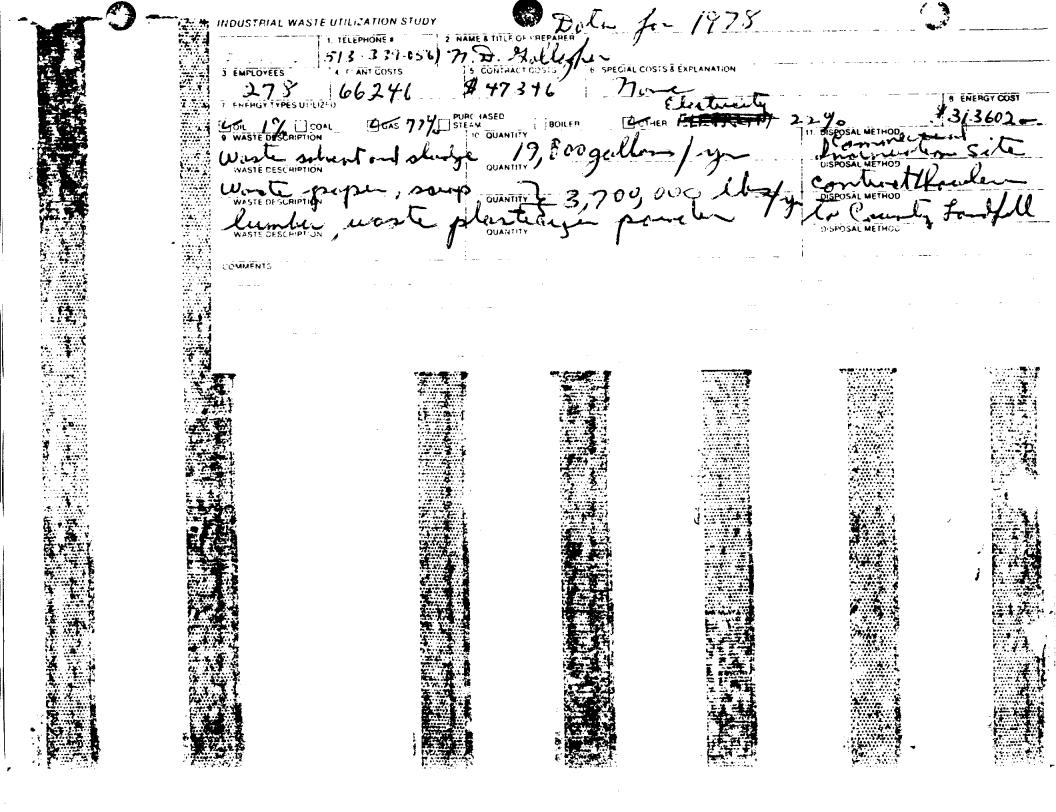
- 15. value (product discretizing)
- 10. Quantity -- Use terms familiar to your industry.
- 11. Method of disposal
 - 1. On site

2. Contract hauters

3. Private landfill

- 4. Municipal collection
- 5. Others (please describe)

PLEASE RETURN QUESTIONNAIRE BY DECEMBER 1, 1979.



| то | NICK GALLENBERGER | |
|----|-------------------|---|
| | | _ |

BROWN-BRIDGE MILLS

Neenah, December 22, 1975

RE: SOLIDS WASTE OHIO 1975 INDUSTRIAL WASTE MANAGEMENT SURVEY

Dear Nick:

To answer your question of December 18, you should participate in the survey - but very carefully. Results of surveys such as this are fed into computers and there they stay forever and ever. It is easy to have a computer flash warning lights and shoot off rockets by answering a question wrong when actually no problem exists.

I have usually kept the following in mind in answering a questionnaire:

- Does the party sending it out have the right to ask for this information, or if there is some question as to his legal right, would it be advisable to cooperate anyway? In this case, the answer is "yes" on both counts.
- What is the purpose of the survey what would we need if we were doing the job ourselves?

Obviously, in this case they are interested in finding out the magnitude of the problem that the state has due to the existence of your mill - how much of what kind of wastes go to the dumps or sanitary sewers. aren't interested, for example, in whether or not you have traces of mercury in some raw material that you use that you didn't even know about until someone made a test that showed there was .5 parts per billion present. If you are not using mercury compounds and, to your knowledge, the raw materials are mercury-free, report no mercury. Otherwise, no matter how well you explain that the amount is infinitesimal, the fact that your report showed some to be present will cause the computer to put your mill into the slot of mercury dischargers. I use this just as an example of what can happen if you try to be too careful and stand too straight.

- 3. It is good practice when in real doubt to leave the space blank. If it is found later that you should have reported it, they will tell you so in a hurry. If there is reasonable cause for doubt, the worst you will get is a reprimand and an order to mend your ways.
- 4. Leave blank any information that would give away trade secrets. No matter what they promise, your report will still be on file. At least make them come back to you and ask for it again. Eventually, you may have to comply, but they will know that you've made quite a fuss and that it's all recorded on paper and so they will be more careful.
- 5. Be very careful to see that this questionnaire agrees with others put out by the mill. It could be extremely embarrassing to find that you had told the City of Troy one thing and this questionnaire another. Of course, things do change, but if this is the case, be sure that you keep in your own files notes on the assumptions made and that if these were different than for previous questionnaires, that you give the reason as to why they were different. Almost always, some different individual from the one who did it two or three years ago fills out the report. Some assumptions always have to be made, and he should know what these were in the past.

This has been a very long answer to a very short question, but I have seen so much confusion and needless time spent in correcting errors that I want to be sure these points are called to your attention.

Merry Christmas!

R. M. Billings

Director of Environmental Control

Out Bellings

/p

EPA

N. D. Gallagher

Richard M. Billings

December 18, 1975

OHIO EPA'S 1975 INDUSTRIAL WASTE MANAGEMENT SURVEY

Dear Mr. Billings,

We have received the enclosed survey request from the Ohio EPA.

Please advise if we should participate?

Thank you.

NDG:ewc

June 21, 1976

James A. Rhodes
Governor
Ned E. Williams, P.E.
Director

N U GALLAGHER

BRUNN=BRIDGE FILLS INC

516 E MATER SI

IMUY

ÜMIU 45373



0



Dear Sir:

I want to thank you for your cooperation in the recent Ohio Industrial Waste Mail Survey conducted by the agency last November. Thanks to your efforts to respond, the survey has provided some very useful information.

Considerable work remains to be done on interpretation of the data you have provided. However, the following represent some initial findings:

Gross Figures - Waste Disposal:

| (1) disposal in ponds or lagoon | s 2.2 billion gal./yr. |
|---------------------------------|--------------------------|
| (2) disposal in landfills | 15.6 million cu.yds./yr. |
| (3) disposal by incineration | 36.9 million lbs./yr. |
| (4) disposal by landspreading | 151.3 million lbs./yr. |

Gross Figures - Waste Generation:

| (1) pickle liquor | 45 million gal./yr. |
|------------------------------|---------------------|
| (2) polychlorinated biphenyl | 8000 lbs./yr. |
| (3) waste oil | 18 million 1bs./yr. |
| (4) organic chemical waste | 15 million gal./yr. |
| (5) waste solvents | 5 million lbs./yr. |

More detailed reports will be released as time permits, however, rest assured that no firms will be identified and all requests for confidential treatment of information will be respected.

Thank you again for your excellent cooperation.

Hams Welle

Very truly yours,

Director

NEW/pd

June 21, 1976

James A. Rhodes Governor Ned E. Williams, P.E. Director

N D GALLAGHER
BROWN-BRIDGE MILLS INC
518 E WATER SI
TRUY
OMIU 45373





Dear Sir:

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Thank you again for your excellent cooperation.

Very truly yours,

Med A. World Director

NEW/pd

100% Recycled Paper

November 24, 1975

James A. Rhodes, Governor Ned E. Williams, P.E., Director

Dear Sir:

The Ohio Environmental Protection Agency is conducting a survey of great importance to your industry. Results of the survey will be used to provide our state legislature with an accurate assessment of the current needs of industry to safely dispose of or reclaim industrial wastes.

This survey is concerned with wastes which may be going on or off site to: lagoons, landfills, energy recovery systems, reclamation for reuse, or some other off-site contract disposal operation. If your company feels that specific survey items are of a proprietary nature, we encourage you to so indicate on the survey form. When a request for confidentiality is received we will protect it as confidential information.

The Ohio EPA will not use any of the information you provide pertinent to this survey in any civil or criminal enforcement action. This effort is not intended to harass industry but rather to assist you in the solutions of community and state-wide problems.

If our office can be of any assistance in your answering this survey we welcome your calls to Don Brown or Wendell McElwee, phone (614) 466-8934.

Thank you for your cooperation.

Very truly yours,

Director

NEW/pd

OHIO ENVIRONMENTAL ROTECTION AGENCY Office of Land Pollution Control Division of Hazardous Waste Control

Ohio 1975 Industrial Waste Management Survey

(Please type or print in ink all responses)

SXC CCDE 2641 11329
BPOWN-BRIDGE MILLS INC
ATTN PLANT MANAGER
518 E WATER ST
TRCY OH 45373

| Α. | . If company name or address above is inc and enter corrections below: | orrect, please cross ou | t erroneous information |
|----|---|-------------------------|--------------------------------|
| | Company Name: | | |
| | Company Address: (street address) | | |
| | (city) | | (zip code) |
| В. | . County in which company is located: | Miami | - |
| | | (please do not abb | reviate) |
| c. | . Name of person responding to survey: _ | N. D. Gallagher | |
| | Title: Technical Director | | 3 / 335-0561 code) (number) |
| D. | Please check () box if your company d Table I on page 2 of this survey. If t information (A, B, C above), provide na page 3 for return mailing. | his box is checked, ple | ase complete the mailing |
| | (name) (| title) | (signature) |
| | Please check () box if your company w the survey. If this box is checked, pl C above), provide name, title and signa mailing. | ease complete the maili | ng information (A, B, |
| | Ц | | |
| | (name) | (title) | (signature) |

F. If <u>confidential</u> status is required for any answers provided in the survey, please indicate those items by placing a check (\checkmark) in the box provided for each item in the left margin. Any item thus checked will be assured of confidentiality.

* * * * *

NOTE: In responding to the survey, please express numeric values in whole numbers; e.g., 100,000 lbs., not 105 lbs. or \$3000, not \$2812.84.

INSTRUCTIONS for completing TABLE I.:

(1) Please complete the table even though outside handlers dispose of your wastes.

(2) Under DISPOSAL SYSTEM AND QUANTITY, please indicate the quantity of the industrial waste that is disposed of by the method cited, if applicable.

(3) Under TREATMENT EMPLOYED, please check (\checkmark) your method of treatment, if applicable.

Please indicate N/A (not available) for the applicable waste categories and waste quantities if no estimate can be made available at this time. (4)

Please ensure that values given under DISPOSAL SYSTEM AND QUANTITY correspond to the specified units of measurement.

(5) Under PHYSICAL STATE, please check (\checkmark) the form of waste when disposed.

| Tregeneration reduction Acid - base neutralization Table Repeating Land spreading Lbs./Yr. Land spreading Lbs./Yr. Land spreading Lbs./Yr. Incineration Lbs./Yr. Landfilling Cu. Yds./Yr. Discharged to municipal sewage systems 1000 Gal./Yr. Units Corporate Wastewater Treatment Facilities 1000 Gal./Yr. units Solid Liquid Solid Sludge Treatment Sludge Spread Sp | | Biological oxidization | 0 | 1 | - | 1 | F | | | _ | | | _ | | | | | | _ |
|--|---|--|-----|----|--------------|--------------------|--|-----|-----------|---|---------------|----------------------------|-------------------|----------|---|---------|---------|---|-----------------------------|
| Oxidation reduction Acid - base neutralization To acid - base neut | MEN | Precipitation by evaporation Precipitation by chemical | j | + | | \vdash | \dagger | | | - | - | | - | - | - | - | | | |
| Oxidation reduction Acid - base neutralization The land spreading Lbs./Yr. Land spreading Lbs./Yr. Incineration Lbs./Yr. Landfilling Cu. Yds./Yr. Lagoons or ponds Cal./Yr. Discharged to municipal sewage systems 1000 Gal./Yr. Units Corporate Wastewater Treatment Facilities 1000 Gal./Yr. units Solid Sludge Treatment Communicity Sludge Treatment Solid Sludge Treatment Solid Sludge Treatment Facilities 1000 Gal./Yr. units Lagoons or ponds Cal./Yr. Lagoons Cal./Yr. Lagoo | EAT | treatment Or | - | + | + | ╀ | - | | - | - | - | - | - | - | - | | - | - | _ |
| Oxidation reduction Acid - base neutralization To Acid - base neut | WASTE CATEGORY PHYSICAL DISPOSAL SYSTEM AND QUANTITY TREATMENT MASTE CATEGORY STATE DISPOSAL SYSTEM AND QUANTITY EMPLOYED | regeneration | 1 | | | | | | | | | | | | | | | | × |
| Acid - base neutralization Corporate Wastewater Treatment Facilities 1000 Gal./Yr. units Corporate Wastewater Treatment Facilities 1000 Gal./Yr. units Corporate Wastewater Treatment Facilities Corporate Wastewater Treatment Facilities | | Oxidation reduction | × | | | | | | | | | | | | | | | | |
| Incineration Lbs./Yr. d Incineration Lbs./Yr. o Incineration Lbs./Yr. o Landfilling Cu. Yds./Yr. o Landfilling Cu. Yds./Yr. o Landfilling Cu. Yds./Yr. o Landfilling Cu. Yds./Yr. o Discharged to municipal sewage systems 1000 Cal./Yr. Units 1000 Cal./Yr. units Incorporate Wastewater Treatment Excilities 1000 Cal./Yr. units Landfilling Chemicals of the Compounds of the Compound of the Comp | | Acid - base neutralization |)·O | _ | \perp | <u> </u> | | | L | | | | | | _ | | | _ | |
| THE CATEGORY THE CATEGORY THE CATEGORY THE CATEGORY THE CATEGORY THE LIGHT Compounds Cal./Ar. And Callours Compounds Cal./Ar. Units The Light of Sample Callours Compounds Cal./Ar. Units The Light of Sample Callours Callou | | Land spreading Lbs./Yr. | Ţ | | | | | • | | | | | | | | | 277 | | |
| Ticides Transmic Corbotate Mastemater Liding Solid Tides Solid Tides Thorogan Compounds Thorogan Com | I | Incineration Lbs./Yr. | ų | | | | | | | | • | | | | | 134.000 | 144.000 | 1 | |
| Troing to the first state of the | | Landfilling Cu. Yds./Yr. | ۵0 | | | | | | | | | | | | | | | | N/A |
| Ticides Solid Solide Strics Line Liquors Solid Such as Cu. Cr. Cd. Chiorinated Biphenyl Et Inorganic Chemicals For | | Lagoons or ponds Gal./Yr. | J | | | | | | | | | | | | | | | | |
| Treitment Facilities STATE STATE STATE STATE Solid It is such as Cu. Cr. Cd. Ph. or Se. Ph. or Se. Ph. or Se. Survy Compounds Sphorous Compounds Thorganic Chemicals Chlorinated Biphenyl Stics Stics Chlorinated Biphenyl Stics St | DISPOSAL | sewage systems | a | | | | | | | | | | | | | | | | |
| WASTE CATEGORY ticides ticides stics tle Liquors als such as Cu Cr Cd Pb., or Se. als such as Cu. Gr Cd rides stics chlorinated Biphenyl stics vents lus lus lus lus lus lus lus l | | Treatment Facilities | þ | | | | | | | | | | | | | | | | |
| WASTE CATEGORY Licides Licides Stics Stics Als Such as Cu Cr Cd Pb., or Se. Lury Compounds als Such as Cu Cr Cd Pb., or Se. Cury Compounds als Such as Cu Cr Cd Stics Als Such as Cu Cr Cd Stics Als Such as Cu Cr Cd Als Such as Cu Cr | AL | Solid | U | + | | | F | | | | | | | | | - | | | × |
| WASTE CATEGORY Licides Licides Stics Ale Liquors Als such as Cu Cr Cd Pb., or Se. Cury Compounds nides sphorous Compounds rides sphorous Compounds chlorinated Biphenyl stics vents losives | SIC | Liquid | 7 | Τ | | - | Г | | | | | | _ | | | × | | | |
| WASTE CATEGORY ticides ticides ticides ticides ticides ticides stics tle Liquors als such as Cu Cr Cd Pb or Se. tury Compounds nides sphorous Compounds rides chlorinated Biphenyl stics chlorinated Biphenyl stics rents lus tros lus lus lus lus lus lus lus l | PHY ST | Sludge | a | T | | | | - | | | | | | | | × | _ | | |
| WASTE CATEGORY ticides ticid | | | _ | 十 | - | - | | = | Ħ | | | = | - | | | | | Ħ | = |
| | | | ١. | ╢. | | 04. Pickle Liquors | Cu. Cr | Pb. | . Mercury | | . Phosphorous | . Other Inorganic Chemical | . Polychlorinated | 11. 0ils | | | | | 17. Other Organic Chemicals |

| | | and operation costs for processing, storage, collection and disposal extrapleal) \$ 47.000 /year |
|--------------|-----|--|
| K | 20. | 7 47.000 7 year 28.599 (.177) Total annual return from internal salvage: \$ 40,000 /year |
| x | 21. | Total annual charges by external industrial waste handlers: (total dollars/year) (a) Contract haulers: \$ 7,000 (b) Private landfill operators: \$ (c) Municipal refuse collection: \$ (1,292) |
| \mathbf{x} | 22. | Total annual return from external salvage: \$7,000 /year |
| [x] | 23. | Do you utilize storage lagoons or ponds as part of your waste system? YES X NO |
| ₩ | 24. | If you answered YES to item #23 above, please enumerate the total combined volume for lagoons or ponds: Total combined volume 12,000 gal. Indicate address of pond or lagoon if different from company address: (street) (city) (state) |
| X | 25. | If you utilize private contractors to dispose of your industrial wastes, please name your current contractor(s) and the location of their treatment or disposal centers: |
| | | Commercial Waste Removal, Inc. Piqua Ohio (city) (state) |
| | | (a) ' (name) (city) (state) Jay Foster Troy Ohio |
| | | (b) Klor-Kleen, Inc. Cincinnati Ohio |
| \mathbf{x} | 26. | (c) Approximately how many miles must your industrial waste in Table I be shapped for its disposal or recycling: 35 miles (please round to mearest mile.) |
| | 27. | If the ultimate disposal, recycling or storage occurs in another state(s), please indicate the state(s): |
| \boxtimes | 28. | (a) (b) (c) If your company utilizes outside contractors, do you feel than your total costs for handling and processing your industrial wastes are: (please check one) (a) reasonable (b) moderately expensive X (c) excessive |
| \mathbf{x} | 29. | Do you feel that there is currently a need for more regional energy recovery, recycling and industrial waste treatment centers? YES $\underline{\hspace{1cm}}$ NO $\underline{\hspace{1cm}}^{\times}$ |
| | 30. | To control the incidence of such surveys as this, we would like to have an estimate of the approximate total costs expended to answer this survey: \$ |
| | | * * * * * |
| | (1) | eddition to the information provided in the survey above, we would appreciate your ing the time to provide us with more detailed data. Please briefly elaborate on the detailed chemical characteristics, concentrations, acidity, etc., of the wastes which your company disposes of, as checked in Table I. Please provide this information on your company letterhead and attach it to the survey form. All responses supplied on your letterhead will be kept confidential. Please also indicate on your letterhead the types of personal safety handling |
| | | techniques your company uses in disposing of the wastes checked in Table I. |

(3) Please include any additional information or remarks you may wish to convey.

the enclosed envelope to:

Thank you for your careful consideration. Please return the survey and attachments in

Don Brown, Hazardous Waste Control Division Ohio Environmental Protection Agency P.O. Box 1049 Columbus, Ohio 43216



State of Ohio Environmental Protection Agency

November 24, 1975

James A. Rhodes, Governor Ned E. Williams, P.E., Director

Dear Sir:

The Ohio Environmental Protection Agency is conducting a survey of great importance to your industry. Results of the survey will be used to provide our state legislature with an accurate assessment of the current needs of industry to safely dispose of or reclaim industrial wastes.

This survey is concerned with wastes which may be going on or off site to: lagoons, landfills, energy recovery systems, reclamation for reuse, or some other off-site contract disposal operation. If your company feels that specific survey items are of a proprietary nature, we encourage you to so indicate on the survey form. When a request for confidentiality is received we will protect it as confidential information.

The Ohio EPA will not use any of the information you provide pertinent to this survey in any civil or criminal enforcement action. This effort is not intended to harass industry but rather to assist you in the solutions of community and state-wide problems.

If our office can be of any assistance in your answering this survey we welcome your calls to Don Brown or Wendell McElwee, phone (614) 466-8934.

Thank you for your cooperation.

Very truly yours,

Director :

NEW/pd

OHIO ENVIRONMENTAL PROTECTION AGENCY Office of Land Pollution Control Division of Hazardous Waste Control

Ohio 1975 Industrial Waste Management Survey

(Please type or print in ink all responses)

SIC CCDE 2641 11329
BROWN-BRIDGE MILLS INC
ATTN PLANT MANAGER
518 E WATER ST
TROY OH 45373

| Α. | If company name or address above is incorrect, please cross out erroneous information and enter corrections below: |
|----|--|
| | Company Name: |
| | Company Address: (street address) |
| | (city) (zip code) |
| в. | County in which company is located: MIANI (please do not abbreviate) |
| c. | Name of person responding to survey: NO GALLAGATER |
| | Title: TEC/M/C/) |
| D. | Please check (\checkmark) box if your company does not generate <u>any</u> of the wastes listed in Table I on page 2 of this survey. If this box is checked, please complete the mailing information (A, B, C above), provide name, title and signature below and return. See page 3 for return mailing. |
| | (name) (title) (signature) |
| E. | Please check () box if your company will be responding to none of the questions in the survey. If this box is checked, please complete the mailing information (A, B, C above), provide name, title and signature below and return. See page 3 for return mailing. |
| | (name) (title) (signature) |
| F. | If <u>confidential</u> status is required for any answers provided in the survey, please indicate those items by placing a check () in the box provided for each item in the left margin. |

* * * * *

NOTE: In responding to the survey, please express numeric values in whole numbers;
e.g., 100,000 lbs., not 105 lbs. or \$3000, not \$2812.84.

Any item thus checked will be assured of confidentiality.

INSTRUCTIONS for completing TABLE I.:

(1) Please complete the table even though outside handlers dispose of your wastes. (2) Under DISPOSAL SYSTEM AND QUANTITY, please indicate the quantity of the industrial waste that is disposed of by the method cited, if applicable.

(3) Under TREATMENT EMPLOYED, please check (V) your method of treatment, if applicable.

(4) Please indicate N/A (not available) for the applicable waste categories and waste quantities if no estimate can be made

NOTE: Please ensure that values given under DISPOSAL SYSTEM AND QUANTITY correspond to the specified units of measurement. (5) Under PHYSICAL STATE, please check () the form of waste when disposed. available at this time.

| i | Biological oxidization | 0 | | | | | 1 | 7 | 7 | | | 1 | 1 | 1 | _ | _ | 4 | 1 | 1 | 7 |
|---------------------------|---|-------------------|--|--------------|--------------------|-------------------------------|---------|----------|-----------|----------|-------------------|----------|-----------|---|--------------|------------|------------|----------------|-----------|--------------------------|
| 日日 | Precipitation by evaporation Precipitation by chemical treatment Waste recovery or regeneration | - | H | | - | | + | \dashv | + | \dashv | - | + | + | + | -+ | - | \dashv | - | | \dashv |
| | treatment | 日 | | | | | 1 | ١ | - | - } | 1 | - } | | | - | 1 | - } | | | } |
| EA PI | Waste recovery or | | - | | | _ | - | + | 7 | _ | + | + | 十 | 7 | - | 7 | 1 | 1 | 11 | \dashv |
| 日音 | regeneration | - | | | | | - | - | 1 | 1 | - | | - | - | ļ | 1 | 1 | ١ | 7 | 1 |
| | Oxidation reduction | * X | | - | | | + | 7 | 7 | _ | - | 十 | + | _ | _ | - | - | 1 | 1 | \dashv |
| | Acid - base neutralization | | | _ | | | 寸 | 7 | | 1 | 7 | \dashv | 1 | _ | 7 | \neg | \neg | | 寸 | ٦ |
| | | | | = | | | | 7 | \exists | 7 | ╡ | 干 | \exists | 7 | | | = | | | 7 |
| | Land spreading Lbs./Yr. | - - -1 | | | | | | | | | | | | | | | | | | |
| , | Incineration Lbs./Yr. | ų | | | | | | | | | | | | | 134.cc | | | | | |
| D QUANTITY | Landfilling Cu. Yds./Yr. | 8 | | | | | | | | | | | | | | | | | N/\ | |
| SYSTEM AND | Lagoons or pends Gal./Yr. | 4-1 | , | | | | | | | | | | | | | | | | | |
| DISPOSAL | Discharged to municipal sewage systems 1000 Gal./Yr. Units | ข | | | | | | | | | | | | | | | | | | |
| | Corporate Wastewater Treatment Facilities 1000 Gal./Yr. units | P | | | | | | | | | | | | | | | | | | |
| = | | U | - | - | | | # | + | | \dashv | = | = | - | = | =- | - | | == | \forall | = |
| CAL | Solid | | | | _ | L. | \bot | | | _ | _ . | _ | _ | _ | _ | _ | | _ | 3 | _ |
| SI | Solid Liquid Sludge | م | | | | | | | | 1 | | Ì | | | 7 | į | | | | |
| PHYSICAL STATE | Sludge | เบ | Γ | | | | | | | | \neg | | 6 | | 7 | | | | | |
| | | - | F | - | = | = | # | = | | # | # | | ¥ | = | = | | | = | | = |
| INDUSTRIAL WASTE CATEGORY | • | 01. Pesticides | 02. Acids | 03. Caustics | 04. Pickle Liquors | 05. Metals such as Cu Cr., Cd | Ni. Pb. | | | | . Other Inorganic | | | | 13. Solvents | 14. Resins | 15. Paints | 16. Explosives | | 18. Infectious Materials |
|]. | Request Confidential Status | | | | | | L | | | | | . | | _ | | | _! | | | |
| - | | | | | _ | - | _ | | | | | | | | | | | | | |

| - [2] | ±9. | Total internal expenditures for industrial waste management function (include labor and operation costs for processing, storage, collection and disposal extrapital) \$ 47.000 /year |
|-------|-------------|--|
| U | 20. | Total annual return from internal salvage: \$ 40,000 /year |
| | 21. | Total annual charges by external industrial waste handlers: (total dellars/year) (a) Contract haulers: \$ (b) Private landfill operators: \$ (c) Municipal refuse collection: \$ |
| | 22. | Total annual return from external salvage: \$ 7000 /year |
| | ≨ 3. | Do you utilize storage lagoons or ponds as part of your waste system? YES NO |
| | 24. | If you answered YES to item #23 above, please enumerate the total combined volume for lagoons or ponds: Total combined volume /2 coc gal. Indicate address of pond or lagoon if different from company address: (street) (city) |
| | 25. | If you utilize private contractors to dispose of your industrial wastes, please name your current contractor(s) and the location of their treatment or disposal centers: |
| | | Communant Work Runnight Pyn Ofra (a) (nama) (city) (state) (b) J. K. D. O. T. D. T. |
| | 26. | Approximately how many miles must your industrial waste in Table I be shapped for its disposal or recycling: 35 miles (please round to nearest mile.) |
| | 27. | If the ultimate disposal, recycling or storage occurs in another state(s), please indicate the state(s): |
| À | 28. | (a) (b) (c) If your company utilizes outside contractors, do you feel that your total costs for handling and processing your industrial wastes are: (please check one) (a) reasonable (b) moderately expensive (c) excessive |
| | % 9. | Do you feel that there is currently a need for more regional energy recovery, recycling and industrial waste treatment centers? YES NO |
| | 30. | To control the incidence of such surveys as this, we would like to have an estimate of the approximate total costs expended to answer this survey: \$ |
| | | * * * * * |
| | tak: (1) | addition to the information provided in the survey above, we would appreciate your ing the time to provide us with more detailed data. Please briefly elaborate on the detailed chemical characteristics, concentrations, acidity, etc., of the wastes which your company disposes of, as checked in Table I. |
| | | Please provide this information on your company letterhead and attach it to the survey form. All responses supplied on your letterhead will be kept confidential. |
| | (2) | Please also indicate on your letterhead the types of personal safety handling techniques your company uses in disposing of the wastes checked in Table I. |

(3) Please include any additional information or remarks you may wish to convey.

Thank you for your careful consideration. Please return the survey and attachments in the enclosed envelope to:

Don Brown, Hazardous Waste Control Division

Ohio Environmental Protection Agency
P.O. Box 1049
Columbus, Ohio 43216

assumptions in Completing OF PA Juney O Table 1 Sludge from dry growing Tricklandthytim Sludge from Lat melt Incometion Us/y 2125.60 ·14/gal 15-20 7 gel 16445 13915 17250 5 4 0.0 5 184.00 15-204 32200 60645 X 8.5 / gel 134,000 #/yr.

212860 Charles of the Control of th

| 19 | John Boiling room #18,390 |
|---------------------------------------|---|
| | Solvent Reenen unt \$14,000 |
| | 432390 |
| | Mountaine 15220 Fr 11:0 prij #5-to \$ 47000 Fr DCHP/PPPM. |
| | Fr BCHP/DPPM. |
| | |
| 2-0 | 33682 man Trd. |
| | 7/22 Nam PCAP + DPP |
| · · · · · · · · · · · · · · · · · · · | |
| | |
| /21 | JAI Foster 4500 |
| 44 | (on W Ren) 2128 Kl Klum 41)- |
| | \$ 7000 |
| 522 | 13200 217.80 66.00 Endet # 65 F E. 00 |
| | \$ 7000 |
| | W. I Maste Hulice |

assumptions in Competeting OFPA Table 1 Sludge from day garring Tricklandthytim Sludge from Lot melt Incimulian Us/y 15-20 y gel. 16445 139.15 17250 540.05 184.00 15-204 3.2200 60645 X 5.5 #/ge/ 134,000 #/yr.

212860 *

| TO Richard | SP M. Billings | EED LETTER ® | | | |
|------------|--|------------------|---------------------------------------|----------|---------------------------------------|
| | | | | | |
| SUBJECT | | | | | |
| | | MESSAGE | DATE_ | 6-23-76 | 1976 |
| Here is | a report on the mail sur | vey we responded | to last Decemb | 92. | |
| Best re | | | | | |
| Mck. | Mich | | | | |
| | | | | | |
| | | | | | |
| | | SIGNI | ED | | |
| | | REPLY | DATE_ | | 19 |
| | | | | | |
| | ······································ | · | | , | · · · · · · · · · · · · · · · · · · · |
| · | | | | | |
| NO. 9 FOLD | | | · · · · · · · · · · · · · · · · · · · | <u> </u> | |

SULCE FAVAL THE RETURN YELLOW COPY, SEED WHITE AND PINK COPIES WITH CARRON INTACT

IDO "SNAP-A-WAY" FORM 44-902 3 PARTS

SIGNED_

1273

TO Elmer Dickson

Director of Occupational Safety and Health

1/11/78

RE: OHIO 1977 INDUSTRIAL WAST MANAGEMENT SURVEY

Here is a copy of our response to subject survey.

77. St. Stallinghi-

Nick Gallagher Technical Director

cc: J. S. Rausch

NDG/11b



Battelle Columbus Laboratories 505 King Ave. Columbus, Ohio 43201

Attn: Ms. Shirley J. Smith Researcher

Dear Ms. Smith:

Here is our response to the 1977 Industrial Waste Management Survey you provided to us under a covering letter of December 7, 1977.

Sincerely.

N. D. Gallagher Technical Director

cc: J. S. Rausch

NDG/11b

Ohio 1977 Industrial Waste Management Survey

| <u>I.</u> | General Information | | , | • | |
|-----------|---|-------------|--------------------|-------------------|--|
| 1. | Company Name: Brown-Bridge. A | Division of | Kimberly-Cla | ark Corporat | ion. |
| 2. | Mailing Address: p. 0. Box 370 | | Troy, Ohio | | 45373 |
| | Street | · | City | | Zip Code |
| 3. | Plant Location: 517 E. Water Street | St. | Troy, Ohio City | Miami County | 45373 Zip Code |
| 4. | Person Responsible for Plant Operations: Roger Name | E. Yount | | | |
| | | ions Manage | r 513-339 | | EXT. 251 |
| | Title | | • | Phone | |
| 5. | Person Providing Information: N. D. Galla Name | gher | | | ······································ |
| | <u>Research Di</u> Title | rector | 513-3 | 339-0561 Phone | EXT. 220 |
| 6. | Principal Products and Their S | Standard In | | | Codes (SIC): f Total Productio |
| | a Adhesive coated paper, cloth film and foil b. | | | 100 | |
| | d | | | | |
| 7. | Processes Used at Plant: | | | | |
| | Product | Processes | | | • |
| | a. Water-sensitive adhesive co | atingsAgu | eous and solv | ent coating | • |
| | b. Heat-sensitive adhesive coa | | | | |
| | c. Pressure-sensitive adhesive | coatings | Aqueous and h | ot-meit coa | tings. |
| | d | | | | |

| 8. | Raw | Materials and Other Chemicals Used in Manufacturing Processes: |
|-----|------------|--|
| | aF | Paper, Cloth, Film and Foil e. Solvents, Plasticizers DCHP DPP |
| | ъЕ | mulsion polymers f. Animal glues |
| | c <u>T</u> | hermoplastic resins g. Clays, Stabilizers and Process aides. |
| | | tarches, dextrines h. Solution polymers. |
| | | |
| II. | Tre | atment Facilities |
| | 1. | On-Site Wastewater Treatment Facilities: Yes NoX |
| | | a. NPDES No.: OH 0010626 |
| | | b. On-Site Wastewater Treatment Facilities by 1983: Yes NoX_ |
| | 2. | Industrial Municipal Discharge: Yes X No |
| | | a. Name of Plant: Troy Municipal Plant |
| | | b. Pretreatment: Yes X No |
| | | c. Industrial Municipal Discharge by 1983: Yes X No |
| | 3. | Air Pollution Control Facilities: Yes X No |
| | | a. Types: Carbon absorption solvent recovery. |
| | | b. Air Permit Nos.: 0855140083P001, 0855140083P002 |
| | | c. Air Pollution Control Facilities by 1983: Yes No |
| | 4. | In-House Waste Treatment Capabilities: Paper balers, solid plasticizer |
| | | recovery unit. |
| | | |

| | 5. | Is there any curren on plant property?: | - | | ill, dump, or lagoon |
|------|-----|---|----------------------------------|---------------|--|
| | | | Yes No _ | Χ | • |
| | | | Currently Used | | Abandoned |
| | | a. Landfill | | | |
| | | b. Dump | | | |
| | | c. Lagoon | | | |
| | 6. | Attach sketch of tre | | es including | storage areas. (For |
| III. | Sto | rage Area Practices | | | |
| | 1. | Area Diked: Yes | <u> </u> | | |
| | 2. | Drainage Collection | System: Yes | <u> </u> | _ |
| IV. | Off | -Site Disposal | | | |
| | 1. | Waste hauled off sit | e by: You | Others X | |
| | 2. | Contract hauler util | ized: | | |
| | | Name | Ad | ldress | |
| | | a Commercial Waste Re | moval Inc.* | Piqu | a, Ohio |
| | | b Sussman Inc. ** | | Piqu | a, Ohio |
| ė | | cRaymond Ferguson | * | Trov | , Ohio |
| | | Avey Service Inc. * | | | , Ohio |
| | 3. | Private Contractors | and/or Municipal | . Landfills I | Utilized: |
| | | Name | , A d | ldress | |
| | | a.* Waste solvent an | d sludge | | |
| | | b.** Waste paper | | | |
| | • | c.*** Scrap lumber. | <u>waste pl</u> astici <u>ze</u> | er povider | |
| | 4. | | | | al waste in Tables I and miles (please round to |

| V. | Costs |
|----|-------|
|----|-------|

| | •• | Total internal expenditures for industrial waste management function (include and operation costs for processing, stprage, collection and disposal ex. capital) |
|-----|----|--|
| | | \$ 115,000 /Year |
| | 2. | Total annual return from internal salvage: \$ 85,200 /Year |
| | 3. | Total annual charges by external industrial waste handlers: (total dollars/year) (a) Contract haulers: \$ 11,292 (b) Private landfill operators: \$ (c) Municipal refuse collection \$ |
| | 4. | Total annual return from external salvage: \$ 28,000 /Yea |
| | 5. | If your company utilizes outside contractors, do you feel that your total costs for handling and processing your industrial wastes are: |
| | | |
| | | (a) Reasonable X |
| | | (a) Reasonable X (b) Moderately expensive |
| | | |
| VI. | In | (b) Moderately expensive (c) Excessive |
| VI. | | (b) Moderately expensive (c) Excessive dustrial Waste Exchange Program and Waste Treatment Centers |
| VI. | | (b) Moderately expensive (c) Excessive |

•

Chromium, manganese, nickel, zinc, arsenic, selenium, silver, cadmium, antimony, gold, platinum, and lead compounds.

| | | | | i i | | 77 37007 | | | | |]. | | |
|--|----------|-------|--------|----------|---------------|----------------|-------------------|----------------|---------------------------|--------------------------------|------------------------|--------------------------------|-------------------------|
| Waste Type | Physical | | State | 4 | requency of W | cy or ducti | was te | | On-Site | e Treatment | | Employed | • |
| | Liquid | Solid | Sludge | Seasonal | Continual | Occasional | Other (Specify | Neutralization | Chemical Precipitation | Recipitation by Evaporation | Oxidation or Reduction | Recycling or Waste Recovery | Biological Oxidation |
| 01. Pesticides | | | | | | | | | | | | | |
| 02. Acids | | | | | | | | - | | | | | |
| ł I | | | | | | - | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | · | | | | |
| 06. Mercury compounds | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| 08. Phosphorous compounds | | | | | | | | | | | | | |
| 09. Halogenated hydrocarbons | × | | × | | (x | | | | | | | | |
| 10. Non-halogenated hydrocarbons | × | | × | | | Approx. | 144,000 | 16/yr. | | | | | |
| 11. Solvents | × | | × | | × | | | | | | | | |
| 12. 0ils | | | | | ` | | , | | | | | | |
| 13. Plastics | | | | | | | | | | | | | |
| 14. Resins | | | | | | | - | | | | | | |
| 15. Paints | | | | | | | | | | | • | | |
| 16. Explosives | | | | | | | | | | | | | |
| 17. Radioactive materials | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| · | | | | | | | | | | | | | |
| 20. Other inorganic materials | | | | | | | | | | | | | |
| 21. General | | | | | | | | | | | | | |
| | | - | | | - | - | | - | | _ | | | |
| ************************************** | 3 | 7 | - | ! | | | 1-4 | | * * * * | | | • | · |

Projection By 1933 Chromium, manganese, nickel, zinc, arsenic, selenium, silver, cadmium, antimony, gold, platinum, and lead compounds None None None Maste % Decrease % Increase Storage Time Stored Months Weeks Days n-Site Lagoons Tanks Drums × × Other (Specify) Land Spreading (1bs/yr) Incineration (lbs/yr) Disposal Practices Landfill (cu. yds./yr) Lagoons or Ponds (gal/yr) Discharged to Approx 358,000 gallyn process wash up sewade. Municipal System (gal/yr) 68,000 gall/yr KordqA sanitary sewade. Corporate Waste water Treatment **Facilities** (gal/yr) Off-Site × × × On-Site Non-halogenated hydrocarbons materials Halogenated hydrocarbons compounds materials Pathogenic materials Mercury compounds Other inorganic Pickle liquors Waste Type Phosphorous Radioactive Pesticides Explosives Fluorides Caustics Cyanides Solvents Plastics General Metals Resins Paints Acids Oils .90 8 9 8

Table 11

Estimate of costs for recordkeeping and administration of waste disposal programs.

| Secretary time to prepare manifest | 20 hours/yr. |
|------------------------------------|--------------|
| Secretary filing | 10 hours/yr. |
| Secretary recordkeeping | 10 hours/yr. |
| Technician time for monitoring | 40 hours/yr. |
| Administration | \$1,000 |

Exhibit 2

Brown-Bridge Wastes Sent to the Miami County Incinerator Landfill

EXHIBIT 2

BROWN-BRIDGE WASTES SENT TO MIAMI COUNTY INCINERATOR LANDFILL

| | | TIME | | | | | |
|----|---|--|---|---|---|---|--|
| 1. | TYPE OF WASTE Waste Papers & Lumber (non- hazardo | PERIOD TO MIAMI COUNTY 1/1/75 to 10/31/78 | Papers Lumber Skids | ESTIMATED VOLUME GENERATED 17,500 lbs/mo. | CONTAINERS Containers, 40 cu.yd. | DELIVERY METHOD Contract Haulers | HAULER Jay Foster Raymond Ferguson Avey Svcs.,Inc. Sussman, Inc. |
| 2. | Heat Seal Coater Waste Powder (non- hazardo | 1/1/68 to 10/31/78 us) | Pallets Ground Powders containing: Diphenyl Phthalate an Dicyclohexyl Phthalate, Each Containin 12-15% Si | ıg | Containers, 40 cu.yd. (in Fiber or Steel Drums) | Contract Haulers | Jay Foster Raymond Ferguson Avey Svcs.,Inc. Sussman, Inc. |
| 3. | Incin- erator Ash (non- hazardo | 1/1/68 to 1/1/75 us) | Ashes derived from incin- eration of: Adhesive Coate Papers Kraft Papers Lumber Skids Pallets | 2,000 lbs/mo. | Steel & Fiber Drums (Steel Drums Reused) | Contract Haulers | Jay Foster Raymond Ferguson |
| 4. | Solvent Coater Liquid Wastes | 1/1/68 to 12/31/71 | °Toluene Animal Glue or Modified Starch °Methanol Acrylic Ester Polymer °Isopropanol Citric Acid °Saccharin FD&C Blue No. 1 Water | 200-250 gal/mo. | Steel Drums (Reused) | Contract Haulers | Jay Foster |

| 5. | TYPE OF WASTE Heat | TIME PERIOD TO MIAMI COUNTY 1/1/68 | PRINCIPAL CONSTITUENTS Dicyclohexyl | ESTIMATED VOLUME GENERATED 500 | CONTAINERS Steel Drums | DELIVERY METHOD Contract | HAULER Jay Foster |
|----|-----------------------------|------------------------------------|-------------------------------------|---|---------------------------|--------------------------|----------------------|
| ٠. | Seal | to | Phthalate | gal/mo. | (discarded) | _ | Raymond |
| | Coater | | Diphenyl Phthala | • | (2.22 | | Ferguson |
| | Waste | | Styrene Butadiene | | | | 3 |
| | Sludge | | Rubber | | | | |
| | • | | Polystyrene | | | | |
| | | | Chloroprene Rubbe | ers | | | |
| | | | Acrylonitrile Bur Rubber | tadiene | | | |
| | | | Coumarone Indene | Resins | | | |
| | | | Phenolic Resins- | Form- | | | |
| | | | aldehyde Modif | | | | |
| | | | Coumarone Indene | | | | |
| | | | Phenolic Modif | ied | • | | |
| | | | Petroleum Wax | | | | |
| | | | Ethylene Vinyl Ad | cetate | | | |
| | | | Resin | | | | |
| | | | Acrylonitrile | D | | | |
| | | | Butadiene Styre | | | | |
| | | | Polyethylene Res | 1 N | | | |
| | | | Epoxy Resins | | | | |
| | | | Silicon Dioxide | | | | |
| | | | Alphamethyl | | | | |
| | | | styrene - | | | | |
| | | | vinyl toluene resin | | | | |
| | | | °Trichloro- | | | | |
| | | | ethylene | | | | |
| | | | °1,1,1-Tri- | | | | |
| | | | chloroethane | | | | |

[°]Denotes hazardous wastes regulated under the Federal Resource Conservation and Recovery Act and/or hazardous substances within the meaning of CERCLA.

Exhibit 3

Prinicpal Components of Brown-Bridge Wastes Sent to the Miami County Incinerator Landfill

Exhibit 3A

Solvent Coater Liquid Wastes

SECTION VE. HEALTH HAZARD INFORMATION

- EOS ppm (akia) (See Sect.II)

Vapor inhalation can produce headache and slight drownings at 100 ppm, tatique, nausea and itching skin at 100-200 ppm, anesthetic effects and re piratory tract and eve irtitation above 200 ppm. Absorption can occur through the skin, and liquid contact will cause defatting of the skin, with possible dermatitis from repeated or prolonged contact. Eye contact is irritating and can be damaging (corneal burns). Ingestion irritates the digestive tract and results in systemic effects from absorption.

FIRST AID:

Eve Contact: Immediately irrigate with water for 15 minutes. Get medical help.

Eve Contact: Immediately irrigate with water: remove contaminated clothing prompt! Skin (ontact: Wash area with soap & water: remove contaminated clothing promptly. Get medical help if irritation persists or if large areas of skin were exposed. Inhalation: Remove to fresh air; restore breathing and give oxygen if needed. Get medical help!

Ingestion: Get medical help as soon as possible! When victim is conscious, give USP mileral oil to drink. (Aspiration is a potential hazard if vomiting occurs!)

SPILL, LEAK, AND DISPOSAL PROCEDURES

Report lines wills to saidty personnel. Remove ignation sources; provide explosionproof war Hatton. Those involved in clean-up must use protection again liquid contast and upper inhalation. Pick as liquid when feasible, or absorb on vermiculite or the scoop up with nonsparking tools into a metal container with cover. Liquid some to the led with a water spray to an open holding area for handling. Do not flush to the er, he a confined space, or to a watercourse!

PROCEED: Consider reclaiming by distillation or disposal via a licensed waste disposal complete. Secup that be inclinerated under properly controlled conditions. Follow rederal, it is and local regulations.

SECTION VIII. SPECIAL PROTECTION INFORMATION

Provide general and exhaust ventilation to meet TLV requirements. Ventilation fans & ctic clectrical service must be nonsparking and explosion proof. Exhaust hoods chould have 1100 lfm face velocity and be designed to capture heavy vapors. Exposure have the Commontouring and emergency situations requires une of m organic checked contridge respirator up to 200 ppm; above 200 ppm a full face piece is requires with an approved conster-type gas mask or self-contained breathing equipment. Salety (eg.) - for glasses should be worn in areas of use. Impermeable (neoprene has

been reconcaded) gloves and apron, face shield, and other protective clothing may be account to prevent skin contact during use, especially where aplashing may occur. As a second of their should be available if splashing is possible. A safety shower and would be available.

SECTION IN SPECIAL PRECAUTIONS AND COMMENTS

- in cool, closur, well-ventilated area away from sources of heat and ignition and The cook, elean, well-ventified area away from sources of heaf and ignition and cook and cooking eleans. Area must meet requirements of could could be IB liquid. No stack the action of this period. Nonsparking tools character mode near toluene. The light containers for the product that containers for the following form to prevent that containers. Protect coardinate from physical damage. The following approach to be provided. At least in thought exem is recommended for the approach the action level (50 ppm). The of alcohol can aggravate the many clic effect and blood effects of toluene.

$0.5 \times 1.0 \text{ were (S) CODE: } 1-9,12,20,21,26,26$

sudges as a secure suggestation of information tenegration panels on a purposes me there's the proclamatic responsibility. Therefore, although reasonable care has been also as the proclamation of some strength of the call flocting Company with the covering text content as a content of the covering text. as to more access, and only of \$10. I do notice for application to purificate a substruction of the companion of the second of t

| APPROVALS: MIS, | J. M. Nulan |
|----------------------------------|-------------|
| Industrial Hygiche and Safety | 6. Ghitate |
| MEDICAL REV | VIEW: 12/79 |

MATERIAL SAFETY DATA SHEET

CORPORATE RESEARCH & DEVELOPMENT

SCHENECTADY, N. Y. 12305

Phone: 4518) 385-4085 DIAL COMM 3*235=4085



NO. TOLUENE Revision C

August 1979 Date

SECTION I. MATERIAL IDENTIFICATION

MARERIAL NAME: TOLUENE

OTHER DESIGNATIONS: Toluol, Methylbenzene, Phenylmethane, CH₃C₆H₅, GE Material 956Hi, ASTM D362 and D841, CAS# 900 108 883

Available from many suppliers, including Shell Chemical Co. and

Sum Oil Co.

| SECTION II. INGREDIENTS AND HAZARDS | % | HAZARD DATA |
|--|--------|---|
| Toluene | ca 100 | 8-hr TWA 100 ppm (ski or 375 mg/m ³ |
| *ACGIH (1978); (skin) notation indicates a potential contribution to overall exposure via skin absorption. OSHA/NIOSH (1976) proposed an 8-hr TWA of 100 ppm, with a 15 minute ceiling of 200 ppm, and an action level of 50 ppm. Current OSHA TLV is 200 ppm. | | Human, inhalation TCLo 200 ppm (central nervous syst Rat, inhalation LCLo 4000 ppm/4 hr Rat, oral LD ₅₀ 5000 mg/kg |

SECTION III, PHYSICAL DATA

| Boiling point, 1 atm, deg F (C) | 231 (110.6) | Specific gravity (Water=1) | 0.866 |
|---------------------------------|-------------|----------------------------|-------|
| Vapor pressure 0 25 C, am Hg | 28 | Volatiles, % | 100 |
| Vapor density (Air=1) | 3.2 | Evaporation rate (BuAc=1) | 1.9 |
| Solubility in water, % | 0.05 | Molecular weight | 92.15 |

Appearance & Odor: Water white liquid with a characteristic aromatic odor, whose recognithe threshold (unfatigued) is 2-5 ppm (100% of test panel). Odor detection is unsatisfactory for safety because of fatigue.

| SECTION IV. FIRE AND | EXPLOSION DATA | | LOWER | UPPER |
|-----------------------|--------------------|----------------------------|-------|-------|
| en Loint and Method | Autoignition Temp. | Flammability Limits In Air | | |
| 40 (1.4 C) Closed cup | (536 C) 997 F | % by volume | 1.0 | , ! |

Extingationing Media: Carbon dioxide, dry chemical, foam, and water fog. Water effective for putting out fire, but use spray to cool fire-exposed containers.

At room remperature, toluene emits vapors that can form flammable mixtures with air. It is a dangerous fire hazard and a moderate explosion hazard when exposed to heat and fluce. Vapors can flow along surfaces to distant ignition sources, then flush back. Firefighters should year self-contained breathing apparatus and eye protection when fight-

ing tolucne fires.

SECTION V. REACTIVITY DATA

Toluche is a stable material under normal storage and handling. It does not undergo hauardous polymerization.

Since toluene is a flammable liquid, avoid contact with heat, sparks or open flames. Avoid contact with strong oxidizing agents. Nitric acid and toluene, especially in combination with sulfuric acid, will produce nitrated compounds which are dangerously

Oxidation in air can form oxides of carbon and nitrogen.

U.S. DEPARTMENT OF LABOR

Form Approved
OMB No. 44471387

Occupational Safety and Health Administration

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Requiations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

| | SECTION I | See Attached Comments |
|--|-------------|-------------------------|
| MANUFACTURER'S NAME | | EMERGENCY TELEPHONE NO. |
| National Starch and Chemical Corpora | tion | 201 755-4100 |
| ADDRESS (Number, Street, City, State, and ZiP Coue) 10 Finderne Avenue, Bridgewater, New | Jersey 0880 | 7 |
| CHEMICAL NAME AND SYNONYMS N/A (NOT Applicable) | | NATIONAL 1687 (50-1687) |
| MA (HOC UPPITCEDIC) | | À |

| Paints, preservatives, & solvents | % | (Units) | alloys and metallic coatings | 15 | TLV (Units) |
|-----------------------------------|-------------|-----------|--|----|----------------|
| RIGMENTS | 1 | | BASE METAL | ţ | l : |
| CATALYST | 1 | | ALLOYS | 1 | • |
| VEHICLE | ì | | WETALLIC COATINGS | 1 | ; ! |
| SOLVENTS | | ! | FILLER METAL FILUS COATING OR CORE FLUX | | ! |
| ADDITIVES | i | ! ! | GTHERS | į | |
| OTHERS | | | | : | i i |
| HAZAROGUS MIXTUR | ES OF | ינו הפאדם | QUIOS, SOLIOS, OR GASES | * | TLV |
| | | - | | į | 1 |
| | | | | 1 | |
| | | | | : | |
| | | | | i | } |

| | SECTION III - | PHYSICAL DATA | | |
|-----------------------------|---------------|------------------------------|---------|-----|
| SCILING POINT (FF.) | N/A | SPECIFIC GRAVITY (H: 0+1) | : | N/A |
| VAPOR PRESSURE (mm Hg.) | N/A | PERCENT VOLATILE BY Weight 3 | approx. | 7 |
| VAPOR DENSITY (AIR=1) | N/A | STAR MOITARDRAVE | | N/A |
| SOLUEILITY IN WATER @ 1850F | Completely | dispersible | | |
| THE TIO PODD ONE SONARABORE | te powder, ce | ereal odor | | |

| SECTION IV - FIRE AND | EXPLOSION HAZARO DAT | ` | i |
|--|----------------------|-----|---------------------------------------|
| N/A | FLAMMABLE L.MITS | -21 | Jai |
| extinguishing wedia Water fog, floam, ω_2 | | | |
| SPECIAL FIRE FIGHTING PROCEDURES | | | |
| | | | |
| unusual fire and sirplosion hazards See attached for dust explosion hazards | | | |
| | | | · · · · · · · · · · · · · · · · · · · |

| | | SEC | CTION V | - HEAL | LTH НА | ZARD | DATA | | |
|---------------------------|------------------------|--------------------------|--------------------------|--------------|--------|--------|-------------|----------------|------|
| THRESHOLD LI | MIT VALUE | | | | | | | | |
| EFFECTS OF OV | VEREXPOSURE Irritation | from | foreign | body. | Skin: | Dust | irritation. | Inhalation: | Dis- |
| COMFORE EMERGENCY A Eyes: | t of respira | atory ocedur water | passage: Es . Skin | s. : Wash | with ' | water. | Obtain med | ical assistanc | e |
| for un | usual exposi | ires. | | | | | | | |
| | | | | | | | | | |

| | SECTIO | N VI - F | REACTIVITY DATA | | | | | |
|-----------------------|---|--|--|--|--|--|--|--|
| UNSTABLE | | CONDITIONS TO AVOID | | | | | | |
| STABLE | X | | | | | | | |
| TY (Niaterials to all | oid) | | | | | | | |
| COMPOSITION PR | 100UCTS | | | | | | | |
| AROOUS MAY OCCUR | | | | | | | | |
| | NOT OCCUR | X | | | | | | |
| | STABLE TY (Materials to all COMPOSITION 28 MAY C | STABLE X TY (Materials to avoid) COMPOSITION PRODUCTS MAY OCCUR | UNSTABLE CONDITION STABLE X TY (Materials to avoid) COMPOSITION PRODUCTS MAY OCCUR | COMPOSITION PRODUCTS MAY OCCUR CONDITIONS TO AVOID | | | | |

| | SECTION VII - SPILL OR LEAK PROCEDURES |
|-------|---|
| STEPS | s to se taken in case material is released or spilled Sweep up, avoid creating dust. |
| | |
| WAST | E DISPOSAL METHOD |
| | In accordance with federal and/or state regulations covering |
| | solid waste disposal. |

| | SECTION VIII - SPECIA | L PROTECTION INFORMATION |
|-----------------|---|---|
| RESPIRATORY PRO | rection (Specify type) K for irritant dust. | |
| VENTILATION | Recommended | SPECIAL |
| | MECHANICAL (General) Recommended | OTHER |
| PROTECTIVE GLOV | ES Blly required | Goggles for protection from irritant dust |
| Clothes | e Equipment suitable for irritant dus | t protection. |

| SECTION IX - SPECIAL PRECAUTIONS | |
|---|---|
| PRECAUTIONS TO SE TAKEN IN HANDLING AND STORING AVOID CREATING CUST. | |
| | |
| OTHER PRECAUTIONS Store in cool dry place. | · |
| | |

PAGE (2)

NATIONAL 1687 (50-1687)

This material is a starch product and supplied as a dry powder. It contains no organic solvents or highly toxic materials. With respect to plant handling it is not a hazardous substance from the standpoint of ingestion, dermal toxicity or dermal irritation.

With respect to eye contact or inhalation, the main concern would be the possible irritation if any powder were to get into the eye or inhaling excessive amounts of dust. If the powder gets into the eye, flush out with water. Inhalation of the dust may cause discomfort of the respiratory passages. The dust of this product is classified as an inert or nuisance dust with respect to inhalation, and the following TL7's (threshold limit values) for the work-room atmosphere apply:

| | Moncf | Mg/m ³ |
|---------------------|-------|-------------------|
| Respirable fraction | 15 | 5 |
| Total Dust | 50 | 15 |

This starch product should be handled in a manner to minimize dust and a possible explosion hazard. The following values for corn starch at 7% moisture would be applicable:

Minimum ignition temperature of dust clouds is approximately 390°C.

Minimum explosive concentration is approximately 70 mg. per liter.

Minimum energy to ignite dust cloud by electrical spark is approximately 0.06 joules.

When dissolved in water for use, the resultant solution has a pH of approximately 5. On prolonged or continuous skin contact there could be drying or chapping of the skin, especially during the winter months. If any of the solution should get into the eye, flush out with water.

Mr. M. G. Magel
The Brown-Bridge Mills Inc.
Troy, Ohio

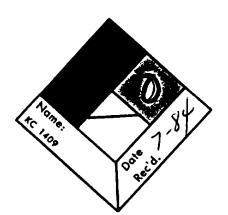


This product is a modifed corn starch and is supplied as a dry material. The main precaution in using and handling is to avoid excessive dusting.

Corn starch is not toxic by oral ingestion or skin contact. With respect to eye contact or inhalation, the main concern would be the discomfort caused by getting any non-corrosive powder in the eye or inhaling excessive amounts of dust. If the starch gets into the eye, flush out with water.

This product should be handled in a manner to minimize dust and the possible explosion hazard. Although individual values have not been obtained for this product they all should be in the same general range as corn starch. The values for corn starch at 5% moisture as obtained by the U.S. Bureau of Mines are:

Minimum ignition temperature of dust cloud app. 390°C app. 62 mg/liter dust cloud by electrical spark app. 0.045 joules



MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

| MANUFACTURER'S NAME Olympic Adhesives, Inc. | REGULAR TELEPHONE NO. 617-762-7550 EMERGENCY TELEPHONE NO. | | |
|--|--|--|--|
| ADDRESS 670 Canton St., Norwood, MA 02062 | | | |
| CHEMICAL NAME AND SYNONYMS AN IMAL GLUE | CAS NO. UN NO. | | |
| TRADE NAME AND SYNONYMS 501 Ymple 1848 Antine TOTUE | | | |
| CHEMICAL FAMILY Protein | FORMULA Natural Polymer - Collagen | | |
| SHIPPING NAME: DOT: | IATA: | | |

II HAZARDOUS INGREDIENTS

| MATERIAL OR COMPONENT | | | AS NO | | * | HAZARO DATA | | | |
|-----------------------|---------------------------------------|----|---------|-----|----|-------------|-----|-----------|--|
| ANIMAL | GLUE | IS | CONSIDE | RED | то | BE | NON | HAZARDOUS | |
| | · · · · · · · · · · · · · · · · · · · | | | | | | | | E Tall |
| . /- / | | | | _ | | | | | - \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ |
| | | | | | | | | | Doug de d |

III PHYSICAL DATA

| BOILING POINT, 760 mm Hg N/A | MELTING POINT N/A |
|---|--|
| SPECIFIC GRAVITY (H ₂ O=1) 1.2 | VAPOR PRESSURE (mm Hg at °C) N/A |
| VAPOR DENSITY (AIR=1) N/A | SOLUBILITY IN H ₂ O, % BY WT. |
| % VOLATILES BY VOL. N/A | EVAPORATION RATE (N/A -1) |
| APPEARANCE AND ODOR Brown Granular Subst | ance pH (AS IS) N/A pH AT 7-1 DILUTION 5.0 - 7.5 |

IV FIRE AND EXPLOSION DATA

| N/A | AUTO IGNITION TEMPERATURE | FLAMMABLE LIMITS N/A IN AIR, % BY VOL.: | LOWER: UPPER: | |
|-----|------------------------------|---|--|---|
| N/A | | | | _ |
| N/A | | | | |
| N/A | | · · · · · · · · · · · · · · · · · · · | | |
| | N/A N/A | N/A TEMPERATURE N/A N/A | N/A TEMPERATURE IN AIR, % BY VOL.: N/A N/A | N/A TEMPERATURE IN AIR, % BY VOL.: UPPER: N/A N/A |

V HEALTH HAZARD INFORMATION

| HEALTH HAZARD DATA | HAZARD CLASSIFICATION | BASIS FOR CLASSIFICATION | SOURCE |
|------------------------------|-----------------------|--------------------------|--------|
| UTES OF EXPOSURE | | | |
| WINDER FION | | | |
| | | | |
| | | | |
| SKIN CONTACT | ANIMAL GLUE IS NON HA | ZARDOUS | |
| | | | |
| | | | |
| SKIN ABSORPTION | | | |
| SKIN ABSONE HOW | | | |
| | | | |
| | | | |
| EYE CONTACT | | | |
| | | | |
| | | | |
| INGESTION | | | |
| | | | |
| | | | |
| | | | |
| EFFECTS OF OVEREXPOSURE | | | |
| CURONIO OVERENDOSHOE | | | |
| CHRONIC OVEREXPOSURE | | | |
| EMERGENCY AND FIRST AID EYES | PROCEDURES | | |
| | | | |
| SKIN | | | |
| | | | |
| INHALATION | | | |
| INGESTION | | | |
| | | | |
| NOTES TO PHYSICIAN | | | |
| | | | |
| | | | |
| | | , | |

VI REACTIVITY DATA

(

| CONDITIONS CONTRIBUTING TO INSTABILITY |
|--|
| ANIMAL GLUE IS STABLE |
| INCOMPATIBILITY (MATERIALS TO AVOID) |
| DO NOT MIX WITH FORMALDEHYDE, ALC_HOL, OR SOLVENTS |
| HAZARDOUS DECOMPOSITION PRODUCTS |
| |
| |
| CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION |
| |
| VII SPILL OR LEAK PROCEDURES |
| STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED |
| CLEAN UP WITH HOT WATER |
| |
| NEUTRALIZING CHEMICALS |
| WASTE DISPOSAL METHOD OF SPILL OR LEAK |
| SEND TO DUMP |
| |
| |
| VIII SPECIAL PROTECTION INFORMATION |
| VENTILATION REQUIREMENTS |
| NOT REQUIRED |
| |
| SPECIFIC PERSONAL PROTECTIVE EQUIPMENT RESPIRATORY (SPECIFY IN DETAIL) |
| |
| EYE |
| |
| GLOVES |
| OTHER CLOTHING AND EQUIPMENT |
| |
| |
| · · |
| |

IX SPECIAL PRECAUTIONS

| LABELING INFORMATION AND WARNINGS | TA SI COIAE I RECAC | | | |
|--|--|---|--|--|
| STORE IN A COOL, DRY AREA | | DATA FOR HAZARDS INFORMATION LABEL Hazard Code 4 = Extreme 3 = High 2 = Moderate 1 = Slight 0 = Insignificant Health Special | | |
| OTHER HANDLING AND STORAGE REQUIREMENTS | S | | | |
| NONE | | | | |
| | X DISPOSAL | | | |
| NASTE DISPOSAL METHOD | ************************************** | | | |
| AQUATIC TOXICITY (eg. 96 hr TLM): | | | | |
| XI (| GOVERNMENT REGU | JLATIONS | | |
| FEFERENCE TO APPLICABLE SOVERNMENT REGULATIONS FEDERAL STATE | | REGULATION HIGHLIGHTS | | |
| OTHER Paul C. Ryan | | Olympic Adhesives, Inc. | | |
| REPARED BY: | COMPANY: | | | |
| DORESS: 670 Canton St., Norwood, N | 1A 02062 | TEL. NO.: (617 762-7550 | | |
| ATE PREPARED: 3/31/82 | LATEST REV | VISION DATE: 3/82 | | |



MATERIAL SAFETY DATA SHEET

J. T. Baker Chemical Co., 222 Red School Lane, Phillipsburg, N.J. 08865

| SECTION 1. IDE | NTIFICATION OF PRODUCT |
|----------------------------|--------------------------------|
| CHEMICAL NAME | FORMULA |
| | сн ₃ он |
| SYNONYM OR CROSS REFERENCE | CAS NO: 6-7561 |
| SECTION II . H. | AZARDOUS INGREDIENTS |
| MATERIAL | NATURE OF HAZAR' |
| SECTION | III . PHYSICAL DATA |
| BOILING POINT 64.5°C. | MELTING POINT -97.8°C. |
| VAPOR PRESSURE | SPECIFIC GRAVITY 0.792 |
| VAPOR DENSITY (AIR=1) 1.11 | PERCENT VOLATILE BY VOLUME (%) |
| WATER SOLUBILITY Complete | EVAPORATION RATE |

APPEARANCE

Clear, colorless flammable, poisonous mobile liquid.

| SECTION IV . FIRE AND EXPLOSION HAZARD DATA | | | | | |
|---|------------------|-------|-------|--|--|
| FLASH POINT (method used) | FLAMMABLE LIMITS | Lower | Upper | | |
| FLASH POINT (method used) 15.5°C. (open cup) | | 6% | 36.5% | | |

FIRE EXTINGUISHING

- Dry chemical, carbon dioxide, alcohol foam.

Water spray may be ineffective as an extinguishing SPECIAL FIRE-FIGHTING PROCEDURES agent but water should be used to keep fire-exposed containers cool.

UNUSUAL FIRE AND EXPLOSION HAZARD

SECTION V. HEALTH HAZARD

THRESHOLD LIMIT VALUE

200 PPM; 260 mg/m³ scu-mus LD₅₀: 9800 mg/kg

HEALTH HAZARDS

POISON: Cannot be made nonpoisonous. Harmful if inhaled FIRST AID PROCEDURES If swallowed, if conscious, induce vomiting until vomit fluid is clear. Call a physician. If inhaled, remove to fresh air. If necessary, give oxygen or apply artificial respiration. Call a physician.

SECTION VI. REACTIVITY DATA CONDITIONS TO AVOID UNSTABLE STABILITY Keep away from heat, sparks, flame. STABLE INCOMPATABILITY (materials to avoid) Chromic Anhydride; Iodine, Ethyl Alcohol & Mercuric Oxide Mixtures; Lead Perchlorate; Potassium Hydroxide & Chloroform Mixtures; Sodium Hydroxide & Chloroform Mixtures HAZARDOUS DECOMPOSITION PRODUCTS CONDITIONS TO AVOID MAY OCCUR HAZARDOUS POLYMERIZATION WILL NOT OCCUR **SECTION VII. SPILL AND DISPOSAL PROCEDURES SPILLS** Eliminate all cources of ignition. Absorb on sand, earth, or vermiculite. Carefully sweep up and remove. Alternatively use J.T.Baker's Flammable Solvents Spill Clean-Up Kit (Product No. 4437). DISPOSAL Atomize into a furnace if local environmental regulations permit. SECTION VIII. PROTECTION INFORMATION RESPIRATORY PROTECTION (specify type) Have all-purpose canister mask available. SPECIAL . **VENTILATION** LOCAL X MECHANICAL (general) OTHER **EYE PROTECTION** PROTECTIVE GLOVES Rubber gloves Face Shield OTHER PROTECTIVE EQUIPMENT Approved working clothes. **SECTION IX. HANDLING AND STORAGE PRECAUTIONS** STORAGE & HANDLING Keep away from heat, sparks, flame. Keep in tightly closed container. Avoid breathing vapor. Wash thoroughly after handling.

SECTION X. MISCELLANEOUS INFORMATION

| Date issued: 10/28/82 | Approved by R. M. Mitchell |
|-----------------------------|----------------------------|
| Revision No. & Date Issued: | Manager, Quality Assurance |

The information provided in this Material Safety Data Sheet has been compiled from our experience and data presented in various technical publications. It is the users responsibility to determine the suitability of this information for the adoption of safety precautions as may be necessary. We reserve the right to revise Material Safety Data Sheets from time to time as new technical information becomes available. The user has the responsibility to contact the company to make sure that the sheet is the latest one issued.

CORPORATE HEALTH AND SAFETY INDEPENDENCE MALL WEST

EMERGENCY TELEPHONE
215-592-3000 (ROHM AND HAAS)



HAZARD RATING
4 = EXTREME
3 = HIGH
2 = MODERATE
1 = SLIGHT
0 = INSIGNIFICANT
Special
• - CHRONIC HEALTH HAZARD - SEE SECTION IV

| PHICADECPHIA, PA 19103 | 800-424-9300 (C) | | | CHRONIC HEALTH HAZARD -SEE SECTION IN |
|-----------------------------|----------------------------|-------------------|---------------|---------------------------------------|
| TTCT 0 | MATERIAL S | AFETY DAT | TA SHEET | • |
| LIST 8 MATERIAL | | CODE KE | Y | REIGHT CLASSIFICATION |
| RHOPLEX® B-10 Emulsion | . | 65263 S | 905316-9 | |
| | | 1 | | |
| FORMULA | TCHEMICAL NAME OR SYNON | 12/09/8 | 3.2 | |
| | | | | |
| <u> </u> | Aqueous acrylic em | INGREDIENTS) | | |
| | | HIGHEDICHTS J | WEIGHT % | ! TWA/TLV |
| Acrylic polymer | | | 46.0 | Not established |
| Residual monomers (See | Section X) | | 0.1 max. | not established |
| Formaldehyde (See Sect | • | | 0.02 | 1 ppm C ACGIH |
| Water | iton in | | 54.0 | 1 ppm c Accin |
| Marer | | | 34.0 | |
| | | | | |
| | (11-11 | PHYSICAL DATA |) | |
| APPEARANCE · ODOR · pH. | | <u> </u> | | VISCOSITY |
| Milky-white liquid; mi | ld acrylic odor: pH | 5.5-6.5 | | 120 cps max. Brookfield |
| MELTING OR FREEZING POINT | BOILING POINT VAPOR PRESSU | | E (mm Hg) | VAPOR DENSITY (AIR = 1) |
| OC/32F water | 100C/212F water | 17 @20C/68F | • | >1 Heavier |
| SOLUBILITY IN WATER | PERCENT VOLATILE IBY WEIG | | | EVAPORATION RATE (BUTYL ACETATE = 1) |
| Dilutable | 60.0 water | 1-1.2 | | <1 Slower |
| | | EXPLOSION HAZA | | |
| FLASH POINT | AUTO IGNITION TEMPERATUR | RE LOWER EXPLOSI | ON LIMIT (%) | UPPER EXPLOSION LIMIT(%) |
| Non-combustible | NA. | NA. | | NA |
| EXTINGUISHING MEDIA | | | | • |
| FOAM "ALCOHOL" [| CO2 DAY | FOG OTHE | R | |
| SPECIAL FIRE FIGHTING PROCE | DURES | | | |
| NA. | | | | |
| | | | | |
| | | | | |
| UNUSUAL FIRE AND EXPLOSION | HAZAROS | | | |
| Product will not burn | but may spatter if to | emperature exc | eeds boilir | ng point. Polymer films ar |
| capable of burning giv | ing off oxides of car | rbon. | | • |
| | (IV - HEA | LTH HAZARD DA | TA_) | |
| | | M TIME-WEIGHTED-A | VERAGE CONCEN | TRATION FOR AN 8-HOUR WORK PERIOD) |
| Formaldehyde - 0.5 ppm | , 1 ppm STEL | | | |
| EFFECTS OF OVEREXPOSURE | | | | |
| Inhalation: Vapors or | spray mists in poor | ly ventilated | areas can c | ause headache, nausea, and |
| irritation of the nose | | | | |
| Skin Contact: Prolong | ed or repeated contac | ct with produc | t can cause | skin irritation. |
| Eye Contact: Direct c | ontact with product o | can result in | eye irritat | ion. |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| EMERGENCY AND FIRST AID PRO | CEDURES | · · | | · · |

EMERGENCY AND PIRST AID PROCEDURES

Inhalation: Remove subject to fresh air.

Eye and Skin Contact: Promptly and thoroughly wash eyes with water for at least 15 minutes and see a physician if irritation occurs; wash skin thoroughly with soap and water; if drenched, remove and wash contaminated clothing before reuse.

Ingestion: If victim is conscious, give two glasses of water to drink. Call a physician. Do not give anything by mouth to an unconscious person.

| • | V - REACT | IVITY DATA | | |
|--|---|--------------------------------------|--|-----------------------|
| STABILITY CONDIT | IONS TO AVOID | | | |
| X STABLE UNSTABLE NA | | | | |
| HAZARDOUS DECOMPOSITION PRODUCTS | | | | |
| N/ | | | | |
| The state of the s | IONS TO AVOID | | | |
| MAY OCCUR X OCCUR INCOMPATIBILITY (MATERIALS TO AVOID) | | | | |
| | | | | |
| WATER OTHER NA | | | | |
| STEPS TO BE TAKEN IN CASE MATERIAL IS F | | EAK PROCEDURE | | |
| | | | | |
| Keep unnecessary people away. | | | | |
| and transfer the liquid and so | | | | |
| disposal. Keep spill out of se | | odies of water. | Floors may be s. | lippery, care |
| should be exercised to avoid fa | ilis. | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| WASTE DISPOSAL METHODS Coagulate t | he emulsion with | n ferric chloride | or sulfate and | then lime to a |
| clear end-point. Decant the cl | ear liquid to so | ewer and landfill | the coagulum as | nd diking |
| material. Incineration of the | entire emulsion | is possible but | impractical beca | ause of the high |
| water content. Coagulum may be | | | | |
| | VII – SPECIAL PROTE | CTION INFORMATION | | |
| VENTILATION TYPE | | | |) |
| Mechanical local exhaust at poi | nt of dust relea | ase. | | |
| | | | | _ |
| None required if good ventilati | | | r MSHA/NIOSH app | proved type |
| suitable for vapor or mist cond | entrations encou | untered. | | |
| | | | | |
| Impervious | Safety glasses | | | |
| | | | | |
| | CVIII - STORAGE | AND LABELING | | |
| STORAGE TEMPERATURE | INDOOR | HEATED | REFRIGERATED | OUTDOOR |
| MAX. 60C/140F MIN. 1C/34F | YES | NO | NO | YES |
| PRECAUTIONARY LABELING: KEEP F | ROM FREEZING | PRODUCT STABILIT | Y MAY BE AFFECT | ED. |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | <i></i> |
| | | INFORMATION) | | |
| Formaldehyde is an animal carci | | | | |
| conditions of use for this prod | uct, the Rohm an | nd Haas TWA of U. | 5 ppm will not | be exceeded. |
| | | | | |
| (| | | | } |
| | (X - MISCELLANE | OUS INFORMATION) | | |
| NOTE: Residual monomer content | | | ling and use doe | s not present a |
| hazard. However, monomer vapor | | | | |
| heat cured or dried (rollers, o | | | | |
| ventilation is not used. | , ====== | -, , ,, -, -, -, -, -, -, -, -, -, - | fu-bulant, - | <u> </u> |
| NOTE: Spray from product must | not be inhaled. | Respirators sho | uld be provided | if engineering |
| controls are not adequate. Inh | | | | |
| b w 10 mg/m3. | | | | |
| RHUPLEX® IS A TRADEMARK OF ROHM | AND HAAS COMPAN | Y OR ONE OF ITS | SUBSIDIARIES OR | AFFILIATES. |
| NA - NOT APPLICABLE KEY | | DATE OF ISSUE | SUPER | |
| C - CEILING VALUE | 05316-9 | 12/09/8 | 2 | 05/12/82 |
| THE INFORMATION CONTAINED HEREIN IS BASE ACCURATE HOWEVER, NO WARRANTY IS EXPRESSI | D ON DATA CONSIDERED ED OR IMPLIED REGARDING | PROCEDURES ARE NOT | ADMERED TO AS STIPULA ASSUMES NO RESPONSIBILI | TED IN THE DATA SHEET |
| THE ACCURACY OF THESE DATA OR THE RESULTS TO USE THEREOF | TO BE OBTAINED FROM THE | OR THIRD PERSONS PR | DXIMATELY CAUSED BY | ABNORMAL USE OF THE |
| VENDOR ASSUMES NO RESPONSIBILITY FOR INJU | Bu == | 4.444.45 | ASSUMES THE RISK IN HI | |

CORPORATE HEALTH AND SAFETY

PHILADELPHIA, PA. 19105

EMERGENCY TELEPHONE 215-592-3000 (ROHM AND HAAS) 800-424-9300 (CHEMTREC)



HAZARD RATING Fire

4 = EXTREME
3 = HIGH
2 = MODERATE TOXICITY
1 = SLIGHT TOXICITY
0 = INSIGNIFICANT Special
- CHRONIC HEALTH HAZARD - SEE SECTION IV

Do

| ACTYLIC POLYMET Residual monomers (See Formaldehyde Water APPEARANCE ODOR - pH. Milky - white liquid; mil MELTING OR FREEZING POINT DC / 32F water SOLUBILITY IN WATER DILUTABLE | Aqueous acrylic emu (I-I | 03/12/8 | 05288-3 | PLASTIC LIQUID, NOI TWA/TLV Not established |
|--|--|-------------------|---|--|
| Acrylic polymer Residual monomers (See Formaldehyde Water APPEARANCE ODOR - pH. Milky-white liquid; mil MELTING OR FREEZING POINT OC /32F water SOLUBILITY IN WATER Dilutable | Aqueous acrylic emu (I-I | 03/12/8 MS 1sion | 2 WEIGHT % 45.0 0.1 max. 0.03 | TWA/TLV |
| Acrylic polymer Residual monomers (See Formaldehyde Water APPEARANCE · ODOR · pH. Milky-white liquid; mil MELTING OR FREEZING POINT OC /32F water SOLUBILITY IN WATER Dilutable | Aqueous acrylic emu (I-) Section X) | ision | WEIGHT % 45.0 0.1 max. 0.03 | |
| Acrylic polymer Residual monomers (See Formaldehyde Water APPEARANCE ODOR - pH. Milky-white liquid; mil MELTING OR FREEZING POINT OC /32F water SOLUBILITY IN WATER Oilutable | Aqueous acrylic emu (I-) Section X) | lsion | 45.0 0.1 max. 0.03 | |
| Residual monomers (See Formaldehyde Water APPEARANCE ODOR - pm. Milky-white liquid; mil MELTING OR FREEZING POINT DC /32F water BOLUBILITY IN WATER Dilutable | (I-) Section X) | | 45.0 0.1 max. 0.03 | |
| Residual monomers (See Formaldehyde Water APPEARANCE ODOR - pm. Milky-white liquid; mil MELTING OR FREEZING POINT DC /32F water SOLUBILITY IN WATER Dilutable | Section X) | NGREDIENTS) | 45.0 0.1 max. 0.03 | |
| Residual monomers (See Formaldehyde Water APPEARANCE ODOR - pm. Milky-white liquid; mil MELTING OR FREEZING POINT DC /32F water SOLUBILITY IN WATER Dilutable | | | 45.0 0.1 max. 0.03 | |
| Residual monomers (See Formaldehyde Water APPEARANCE ODOR - pm. Milky-white liquid; mil MELTING OR FREEZING POINT DC /32F water SOLUBILITY IN WATER Dilutable | | | 0.1 max. 0.03 | NOT established |
| Milky-white liquid; mil MELTING OR FREEZING POINT DC /32F water SOLUBILITY IN WATER Dilutable | ([] - PI | | | |
| Milky-white liquid; mil MELTING OR FREEZING POINT DC /32F water SOLUBILITY IN WATER Dilutable | (11-7) | IVEIGAL BAZA | <u> </u> | <u> </u> |
| MELTING OR FREEZING POINT OC /32F water SOLUBILITY IN WATER Office of the second secon | | HYSICAL DATA | | VISCOSITY |
| MELTING OR FREEZING POINT OC /32F water SOLUBILITY IN WATER Office of the second secon | ld acrylic odor: pH 6 | .1-6.7 | Ì | 90 cps max. Brookfield |
| SOLUBILITY IN WATER Dilutable | BOILING POINT | VAPOR PRESSUR | E (mm Hg) | VAPOR DENSITY (AIR = 1) |
| Dilutable | 100C /212F water | 17 mm Hg @ | 20C/68F | >1 (Heavier) |
| | PERCENT VOLATILE (BY WEIGH | | WATER - 1) | EVAPORATION RATE (BUTYL ACETATE - |
| LASH POINT | 55 (water) | 1-1.2 | | <1 (Slower) |
| | (III - FIRE AND E | XPLOSION HAZA | RD DATA | UPPER EXPLOSION LIMIT(%) |
| Non-combustible | NA | NA. | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | NA . |
| EXTINGUISHING MEDIA | IG | Ites | | TA . |
| FOAM "ALCOHOL" | | ATER OTHER | ŧ | |
| NA ONUSUAL FIRE AND EXPLOSION Product will not burn becapable of burning givi | but may spatter if te ing off oxides of car | | | ng point. Polymer films a |
| RECOMMENDED ROHM AND HAAS | | | | TRATION FOR AN 8-HOUR WORK PERIOD! |
| Formaldehyde - 0.5 ppm, | | | | |
| FFECTS OF OVEREXPOSURE | | | | |
| include irritation of to of headache and nausea. | the mucous membranes : ed or repeated contac | of the nose, t | throat, res t may cause | poorly ventilated areas maspiratory tract and sympto e some skin irritation. tion. |
| EMERGENCY AND FIRST AID PRO | | | | |
| nhalation: Remove sub | bject to fresh air. | | | |
| ye and Skin Contact: und consult physician i | | | | |

Ingestion: If victim is conscious, give two glasses of water to drink. Call a physician.

not give anything by mouth to an unconscious person.

FORM S18 REV. (A

| | (V - REA | CTIVITY DATA | | |
|---|---|--------------------------------------|----------------------------------|---|
| STABILITY | CONDITIONS TO AVOID | | | |
| X STABLE UNSTABLE | NA. | | | |
| HAZARDOUS DECOMPOSITION PRO | DUCTS | | | |
| N. | | | | |
| HAZAROOUS POLYMERIZATION | CONDITIONS TO AVOID | | | |
| MAY X WILL NOT OCCUR X OCCUR | NA NA | | | |
| | | | • | |
| WATER OTHER | NA CUI COUL OR | LEAK PROCEDURE) | | |
| STEPS TO BE TAKEN IN CASE MATE | | | | |
| Keep unnecessary people and transfer the liquid open bodies of water. F | to containers for rec | overy or disposal. | Keep spill ou | it of sewers and |
| | ı | | | |
| waste Disposal Methods Coag clear end-point. Decant the entire emulsion is po may be incinerated. | the clear liquid to ossible but impractic | sewer and landfill al because of the | the coagulum. high water cont | Incineration of |
| | (VII - SPECIAL PROT | FECTION INFORMATION |) | |
| VENTILATION TYPE | | | \1 | ` |
| Mechanical local exhaust | at point or contamin | ant (vapor or mist |) release. | |
| None required if good ver | rilation is maintain | ed. Otherwise wes | - MSHA/NTOSH at | nroved |
| respirator suitable for | | | | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |
| PR CTIVE GLOVES | EYE PROTECTION | | | |
| Impvious | Safety glasse | 8 | | |
| OTHER PROTECTIVE EQUIPMENT | | • | | |
| | | | | |
| | | SE AND LABELING | | |
| STORAGE TEMPERATURE | INDOOR | HEATED | REFRIGERATED | OUTDOOR |
| MAX. 60C/140F MIN. 1.1C/ | | NO | NO | YES ' |
| PRECAUTIONARY LABELING: | KEEP FROM FREEZING - | - PRODUCT STABILIT | Y MAY BE AFFECT | red. |
| | | | | |
| | LIX - TUXICIT | Y INFORMATION | | |
| | | | | |
| | | EOUS INFORMATION | | |
| NOTE: Residual monomer of | | | | |
| hazard. However, monomer | | | | |
| heat cured or dried (roll ventilation is not used. NOTE: Spray from product controls are not adequate below 10 mg/m3. | must not be inhaled | . Respirators show | uld be provided | if engineering |
| RHO Xº IS A TRADEMARK C | F ROHM AND HAAS COMPA | | | |
| NA - NOT APPLICABLE | KEY | DATE OF ISSUE | SUPER | SEDES |

NA - NOT APPLICABLE

C - CEILING VALUE

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE HOWEVER, NO WARRANTY IS EXPRESSED ON IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF VENDOR ASSUMES NO RESPONSIBILITY FOR INJURY TO VENDEE OR THIRD PERSON PROXIMATELY CAUSED BY THE MATERIAL IF REASONABLE SAFETY 03/12/82 08/27/81

PROCEDURES ARE NOT ADHERED TO AS STIPULATED IN THE DATA SHEET. ADDITIONALLY, VENDOR ASSUMES NO RESPONSIBILITY FOR INJURY TO VENDEE OR THIRD PERSONS PROXIMATELY CAUSED BY ABNORMAL USE OF THE MATERIAL EVEN IF REASONABLE SAFETY PROCEDURES ARE FOLLOWED. FURTHERMORE, VENDEE ASSUMES THE RISK IN HIS USE OF THE MATERIAL.

SECTION V - HEALTH HAZARD DATA THP2SHOLD LIMIT VALUE 400 ppm* or approximately 980 mg per cubic meter of air. EFFECTS OF OVEREXPOSURE Thalation: flushing headache, dizziness, nausea, vomiting, Lye: Irritant. Skin: absorbed through skin adding to effect of inhalation Inhalation: remove to fresh air. Keep warm and comfortable. (Call a physician for coma). If breathing is labored, give artificial respiration. If conscious, give black coffee. Eyes: wash with water. Skin: remove soaked clothing.

| SECTION VI - REACTIVITY DATA | | | | | | |
|---|-----------------------|---------------|--|--|--|--|
| STABILITY | UNSTABLE | · | CONDITIONS TO AVOID | | | |
| | STABLE | x | The state of the s | | | |
| Hydrogen-pa | lladium comb | inationi | :-nitroform: for alcohols in general see page 3 | | | |
| We have no | studies on t | his prod | duct. CO and CO and possibly aldehydes would be expected | | | |
| HAZARDOUS | MAY OCC | JR 📆 🗀 | CONDITIONS TO AVOID | | | |
| POLYMERIZATION | , WILL NOT | . | X | | | |
| • · · · · · · · · · · · · · · · · · · · | and the second second | | | | | |

| \$ | | |
|--|---|---|
| | SECTION VII - SPILL OF LEAK PROCEDURES | راد المجال المجال المحال ا والمحال المحال الم |
| STEPS TO BE TAKEN IN "se personal prote | CASE MATERIAL IS RELEASED OR SPILLED | - /* |
| And the second s | | |
| · American in the second | ## NAC CLASS CONTROL NO CONTROL STANCE CONTRACTOR | |
| WASTE DISPOSAL METHOD (I) Evaporate with | authority approval. | |
| (2) Sewer with aut | hority approval. | |
| (3) Reclaim intern | ally or by outside chemical disposal contractor licen | sed for this |

| Operat. | LOII. | | | |
|-------------------------------|---|--|----------------------|--|
| | SECTION VIII - SPECIAL | PROTECTION I | NFORMAT | TON COMMENTED COMMENT |
| FOT LEAKS | orection (Specify type) and spills, types: see Ref. | (a) | * # | · |
| VENTILATION | LOCAL EXHAUST generally required: | | SPECIAL | 100000000000000000000000000000000000000 |
| | MECHANICAL (General) | Commence of the commence of th | OTHER | e graph of the figure of the first terms of the fir |
| PROTECTIVE GLOV Not genera | | Safety gl | N .45 2 5. | \$1. ₩\$ ₩₩\$10 - 24 - 10 - 24 × 50 × 6 |
| Not genera | of Equipment illy required. | 1 | e in the second | A STATE OF THE STA |

| | | • | | ••• | |
|-----|-------------------|------------|--------------------------------------|------------------------------|--|
| | | SECTIO | ON IX - SPECIAL PRECA | LUTIONS | |
| PRI | See Reference (a) | . Corrodes | NO STORING rubber - use neoprene. | Avoid ignition sources and | |
| | | | | f eléctrical systems, formal | |
| 0- | | | personnel training | tank entry procedure. | |
| | * 24 | | Salar Salar Salar Salar Salar Salar | fr a company | |

*This is designated a "skin" value by ACGIH

Form OSHA-20 Rev. Nov., 1977 F.C.H.

U.S. DEPARTMENT OF LABOR Occupational Safety and Health Administration

rorm approved
OMU 110. 44.01341

MATERIAL SAFETY DATA SHEET

EG-Solvents

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

| SECTION I | |
|--|--|
| Allied Chemical Corporation Specialty Chemicals Division | EMERGENCY TELEPHONE NO. (201) 455-2000 |
| ADDRESS _{P.} O. Box 1087R, Morristown, NJ 07960 | - |
| 20001009421122011021 2000100011111 | LASSING TEORET |
| CHEMICAL FAMILY Aliphatic Alcohols | (CH ₃) ₂ CHOH |

| SECTION | i II • | HAZAR | DOUS INGREDIENTS N.A. | | |
|--------------------------------------|--------|----------------|-------------------------------------|------------|---------------|
| PAINTS, PRESERVATIVES, & SOLVENTS | Z | TLV (Units) | ALLOYS AND METALLIC COATINGS | z | (Units |
| PIGMENTS | | | BASE METAL | | |
| CATALYST | | | ALLOYS | _ | |
| VEHICLE | | manus com | METALLIC COATINGS | | ** |
| SOLVENTS | 3 | 1.11 | FILLER METAL OR CORE FLUX | | |
| ADDITIVES | | 7. | OTHERS | | |
| OTHERS | | | | | |
| HAZARDOUS MIXTURES | 5 OF 0 | THER LIG | uros, solios, ex | Z | TLV (Units |
| | | - | A. S. Isos | | |
| SEC | TION | III - P | HYSICAL DATA | | |
| BOILING POINT (°F.) 180°F | (82 | .5°C) | SPECIFIC QRAVITY (H:0.1) (Liquid) | 0. | 785 |
| VAPOR PRESSURE (mm Hy.)At 20°C (68°1 | , | 33 | PERCENT, VOLATILE BY VOLUME (%) | | 100 |
| VAPOR DENSITY (AIR-1) | 2 | .1 | TARREST CON MATE (Time to evaporate | e) | <1 |
| SOLUBILITY IN WATER | COM | plete | | | |
| APPEARANCE AND DOOR Colorless 11 | Lquid | : sliel | nt odor, resembling a mixture of | 200 | tone |

| SECTION IV - FIRE AN | ID EXPLOSION HAZARD DA | TA | ethano |
|--|------------------------|--------------|--------|
| (Closed cup) 53°F (11.7°C) | DY VOLUME | 3.78 | 1,764 |
| EXTINGUISHING MEDIA Alcohol foam, or CO2. Water may be ine | 4 | | |
| SPECIAL FIRE FIGHTING PROCEDURES Wear self-contained breathing apparatus | approved by NIOSH. Use | water to coo | 1 |
| neighboring containers. | | | |
| UNUSUAL FIRE AND EXPLOSION HAZARDS | | | |

SECTION VI. Incompatability (cont'd.)

Acetaldehyde
Chlorine
Diethyl aluminum bromide
Ethylene oxide
Hexamethylene diisocyanate
Hydrogen peroxide-sulfuric acid combination
Hypochlorous acid
Isocyanates
Perchloric acid
Permonosulfuric acid
Tri-iso-butyl aluminum

SECTION VI. SPILL OR LEAK PROCEDURES (cont'd.)

<u>Small Spills</u>: mop up, wipe up, or soak up immediately, remove to out-of-doors. Place soaked wiping material in a metal container and seal.

Large Spills: use water spray to disperse the vapors and to protect any men attempting to stop a leak; also to flush spills away from fire hazard exposures. If possible, dike up. Use water to dilute spills to non-flammable mixtures.

Reference (a)

NAMCC Technical Guide No. 6, "Handbook of Organic Industrial Solvents", 2nd ed., 1961, National Assn. of Mutual Casualty Companies, 20 N. Wacker Drive, Chicago, IL., particulary section "Control of Solvent Exposures".

Nov., 1977 F.C.H.

U.S. DEPARTMENT OF LABOR

XII-6TD-1341(8A)

WAGE AND LABOR STANDARDS ADMINISTRATION
Bureau of Labor Standards

MATERIAL SAFETY DATA SHEET

| | | . SECT | TION 1 | |
|--|---|-------------|----------------------------------|----------|
| > _ | WANUFACTURER'S NAME Pfizer Chemicals Division | 1 | EMERGENCY TELEPHONE 212-573-1200 | |
| | 235 E. 42nd St., New York | | 017 | |
| 100 100 100 100 100 100 100 100 100 100 | | S.P., F.C | C: B-Hydroxy-tricarboxylia | <u>.</u> |
| 6 5 5 C | CHEMICAL FAMILY Aliphatic Acid | | HOC (CH2CO2H)2CO2H | |
| A M S E | SECTIO | ON II HAZA | ROOUS INGREDIENTS | |
| 7CK 11 1 1 1 1 2 2 2 2 8 W. Dayton, | PAINTS, PRESERVATIVES, 4 SQLVENTS | TLV (Units) | ALLOYS AND METALLIC COATINGS | |
| 20~□ | PIGMENTS | | BASE METAL | |
| NEL | CATALYST | i . | ALLOYS | |
| | VEHICLE | 1 | METALLIC COATINGS | |
| | SOLVENTS | 1 | FILLER METAL | |

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS T LV (Units)

PIGMENTS BASE METAL

CATALYST ALLOYS

VEHICLE METALLIC COATINGS

SOLVENTS FILLER METAL

ACOUTIVES NOT OTHERS NOT

OTHERS Applicable Applicable

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES

NOT Applicable

Not Applicable

Not Applicable

| | SECTICAL III | PHYSICAL DATA | |
|-------------------------------|--------------|--------------------------|---------|
| BOILING POINT IPELE | у.А. | SPECIFIC GRAVITY (H20=1) | 1.542 |
| VAPOR PRESSURE INTO HOLI | у.А. | PERCENT VOLATILE | . у.д. |
| VAPOR DENSITY AIR-II | N.A. | EVAPORATION PATE | у.А. |
| SOLUBILITY IN WATER at 20° C. | 59.2g /100m1 | . Melting Point | 153° c. |
| 1885181NC5 1NO 0005 | | nular, fine granular or | powder |

| Ignition Temp. | (Powder) 1000 1020 C. g./It. | Min. Opt. |
|----------------------------|------------------------------|-----------|
| EXTINGUISHING MEDIA | Water | 8 |
| SPECIAL FIRE FIGHTING PROC | None None | |
| | | |

7:E:

Pkg. Dim. (CD):

Gross Wgt.:

| | | SECTION V | / HEAL | TH HAZARD DATA | | |
|----------------------|--|---------------|-----------|------------------------------------|--|--|
| THRESHOLD LIMIT VAL | uf Not e | stablish | ned. | | | |
| CARECIS OF OVEREXPOS | As other mild organic acids, may cause symptoms of | | | | | |
| | respi | ratory : | irrita | tion. | | |
| EMPRGENCY AND FIRST | AIO PROCEDURES Flush | skin c | ontact | with water and flush eye contact | | |
| | | | | hysiological saline or water. Get | | |
| | medic | al care | for e | yes. | | |
| | | SECTION | VI RE | ACTIVITY DATA | | |
| STABILITY | UNSTABLE | С | QNDITIQNS | TO AVOID N.A. | | |
| | STABLE | х | | | | |
| INCOMPATABILITY (Mat | erials to avoid) | | compat | ibilities of organic acids | | |
| HAZARDOUS DECOMPO | | | establ: | | | |
| -AZARUOUS | MAY OCCUR | | Jacab L. | CONDITIONS TO AVOID | | |
| POLYMERIZATION | WILL NOT DO | CUR | X | N.A. | | |
| | | | | | | |
| | | | | | | |
| | SE | CTION VII | SPILL | OR LEAK PROCEDURES | | |
| STERS TO BE TAKEN IN | CASE WATERIAL IS | RELEASED OR S | PILLED | | | |
| F] | lush with w | ater or | sweep | and shovel. | | |
| | | | | | | |
| HASTE DISPOSAL WETH | 00 | | | | | |
| Ca | n be flush | ed away | with v | vater or disposed in normal solids | | |
| | isposal sys | | | | | |
| | | | | | | |
| | | N VIII SP | ECIAL P | ROTECTION INFORMATION | | |
| RESPIRATORY PROTECTI | | Approve | d nuis | sance mask | | |
| VENTILATION | LOCAL EXHAUST | Satisfa | ctory | SPECIAL | | |
| | MECHANICAL (Gen | eral) | | OTHER | | |
| None normal | llv require | d | | EVE PROTECTION Safaty spectacles | | |
| DE SVITORTOPS REHTC | | | | | | |
| | | | | | | |
| | | SECTION | X SPEC | CIAL PRECAUTIONS | | |
| PRECAUTIONS TO BE TO | AKEN IN HANDLING | AND STORING | М. | | | |
| | | | | | | |
| SIDITUADER SHITE | None | | | | | |
| | | | | | | |



The following statement on the safety of citric acid provides additional information not covered by the Material Safety Data Sheet:

Citric acid, a naturally occurring compound, is widely distributed in plants and in animal tissues and its metabolic pathways have been well established. In man citric acid is an important intermediate in the "Krebs Citric Acid Cycle" which represents the pathway of aerobic oxidation of pyruvic acid in the body. Citric acid has a long history of safe use and is classified by the U.S. FDA as "Generally Recognized As Safe" for use in foods. In addition to the published evidence of safety, Pfizer Inc.'s 50 years of experience in manufacturing citric acid has shown that under normal use and handling conditions it is not an occupational health hazard.



CHEMCENTRAL/Detroit 13395 Huron River Drive Romulus, Michigan 48174 (313) 941-4800

July 14, 1982

Safety Director
Brown-Bridge Milss In c.
Div of Kimberly Clark Corp.
P.O. Box 370
Troy, Ohio 45373
Dear Sir:

Enclosed are Material Safety Data Sheets for materials you have purchased from us during 1981. A copy of the list is attached hereto and made a part hereof.

You may be required by state or local laws, regulations or ordinances to transmit or make available material in the enclosed Material Safety Data Sheets to your employees. It is certainly recommended that you contact counsel concerning this requirement in regard to the enclosed Material Safety Data Sheets.

In the event that Material Safety Data Sheets for products you have purchased have not been enclosed, or if you need additional copies of these sheets, please contact your CHEMCENTRAL/Detroit representative.

Very truly yours,

CHEMCENTRAL/Detroit

William H. Shook

Vice President & General Manager

ces

Enclosures

PRODUCTS PURCHASED IN 1981 BY:

15144 -BROWN BRIDGE MILLS - 90

71360 FD&C BLUE #1 CRYSTALS

MATERIAL SAFETY DATA SHEET

| | | 1 PROD | DUCT IDENT | IFICATION | | | | |
|---|-------------------|---|------------|--|---------------------------------------|-------------|-------------------------|----|
| MANUFACTURER'S NAME | Wa rn er-J | enkinson C | ompany | REGULAR EMERGENO | TELEPHO Y TELES | HONE | . (314) 658-7440 NO. |). |
| ADDRESS | 2526 Bal | dwin Stree | t st. | Louis, M | lisso | uri | 63106 | |
| TRADE NAME | (#5601) FD | &C Blue #1 | | | | | | |
| SYNONYMS | Brilliant | Blue FCF | | | | | | |
| SHIPPING | сот: n/a | <u>.</u> | | | | | | |
| NAME ¹ | IATA: n/a | . — — — — — — — — — — — — — — — — — — — | | | | | | |
| | | II HAZA | ARDOUS ING | REDIENTS | - | | | |
| r, | MPONENT | CAS NO. | şę. | | HAZARD DATA | | | |
| · | | | | | | | | |
| (FD&C Colors | nsidered | | | | | | | |
| hazardous mat | erial - do | not fall | under | | | | | |
| the jurisdict | ion of D.C |).T.) | | · | | | | |
| • | | · | ··· | | | | | |
| | | | | | | | | |
| | | 111 | PHYSICAL | DAȚA | | | | |
| BOILING POINT, 760 MM F | IG | n/a | | MELTING POINT n/a | | | | |
| SPECIFIC GRAVITY (H20 | - 1) | n/a | | VAPOR PRESSURE n/a | | | | |
| VAPOR DENSITY (AIR - 1 | | n/a | • | SOLUBILITY IN H20 % BY WT Approx. 20 | | | | |
| % VOLATILES BY VOL. | ·- | n/a · | | EVAPORATION RATE (BUTYL ACETATE = 1) n/a | | | | • |
| APPEARANCE AND ODOR | | See Specif | ication | Ph (AS IS) Ph (1% SOLN.) n/a | | | | |
| | | IV FIRE | AND EXPLO | SION DATA | | | | |
| FLASH POINT (TEST METHOD) | n/a | | | AUTOIGNITI TEMPERATU | - I | • | n/a | |
| FLAMMABLE LIMITS IN A | ir, % by vol. | n/a | LOWER | n/a | UP | PER | . n/a | |
| EXTINGUISHING MEDIA | Will no | t burn | • | | | · | | |
| SPECIAL FIRE FIGHTING PROCEDURES | n/a | | | | | | | |
| UNUSUAL FIRE AND EXPLOSION HAZARD | ·n/a | | | ······································ | · · · · · · · · · · · · · · · · · · · | | | |

VI REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY

This product is hygroscopic and if kept in open container, it would result in reduction of strength.

INCOMPATIBILITY

n/a

HAZARDOUS DECOMPOSITION PRODUCTS

n/a

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

Will not occur.

VII DISPOSAL, SPILL OR LEAK PROCEDURES

AQUATIC TOXICITY (E.G. 96 HR. TLM):

n/a

WASTE DISPOSAL METHOD

Will not burn - suggest sanitary landfill in accordance with local, state, and federal regulations.

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

Clean up with warm water and hypochlorite bleach.

NEUTRALIZING CHEMICALS

n/a

VIII SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS

This product is a very fine powder, and because of this, it tends to be dusty. Ventilation or dust collecting would be helpful, but not necessary.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY (SPECIFY IN DETAIL)

EYE

n/a

GLOVES

n/a

OTHER CLOTHING AND EQUIPMENT Color stains are aggravating but not hazardous. Any protection from color dust is generally appreciated by employee.

#5601 FD&C Blue #1

General Specifications:

Color additives that are certified must comply with general specifications listed in Title 21. Part 74 (Subpart A for foods, Subpart B for Drugs, and Subpart C for Cosmetics) or Part 82 (Subpart B -Foods, Drugs and Cosmetics):

Description:

A finely ground, metallic blue, water soluble powder with a characteristic greenish-blue hue when dissolved and viewed in a 10 ppm water solution.

Pure Dyc:

89 Not less than % pure dyc. Range 89 - 92%.

Identification:

A solution buffered with either 9g per liter ammonium acetate, or 9g/1. sodium acid tartrate compares favorably with the accepted standard diluted comparably using any spectrophotometer, colorimeter or visual method.

Packaging:

As specified by the customer.

FDA Status:

The acceptability of these as color additives in foods, drugs and cosmetics is covered by Color Additives Amendment-Transition Regulations, Part 74- Sections 74.101, 74.1101 -Part 82- Sections 82.101 as published in the Federal Register, Volume 42, No. 55 on Tuesday, March 22, 1977.

WARNER 🙆 JENKINSON

THE FLAVOR & COLOR CREATORS

Warner-Jenkinson Company 2526 Baldwin Street St. Lauis, Missouri 63106 (314) 658-7443

FD&C BLUE NO. 1

(W. J. Code #5601)

COMMON NAME:

Brilliant Blue FCF

CHEMICAL NAME:

Disodium salt of ethyl [4-[p[ethyl (m-sulfobenzyl)amino]-a-(o-sulfophenyl)benzylidene]-2,5-cyclohexadien-1-ylidene] (m-sulfobenzyl) ammonium hydroxide inner

sait.

COLOR INDEX (1956)

NUMBER:

42090

Food Blue 2

FDA STATUS:

Permanently listed.

CHEMICAL STRUCTURE:

SO,Na

N(C,H,)CH,

SO,Na

SO,Na

SPECIFICATIONS (U.S. Certification): Per Federal Regulations, Title 21, Part 74, (Subparts A,B,C) Sections 74.101, 74.1101, and Part 82, (Subpart B) Section 82.101 as published in the Federal Register Volume 42, No. 55 on March 22, 1977.

Sum of chlorides and sulfates (as sodium salts) and volatile matter (at 135° C), not more than 15.0%.

Sum of 0-, m-, and p- sulfobenzaldehydes, not more than 1.5%.

Water-insoluble matter, not more than 0.2%.

Leuco Base, not more than 5.0%.

N-ethyl, N-(m-sulfobenzyl) sulfanilic acid, not more than 0.3%.

Subsidiary colors, not more than 6.0%.

Lead (as Pb), not more than 10 p.p.m.

Chromium (as Cr), not more than 50 p.p.m.

Arsenic (as As), not more than 3 p.p.m.

Pure dye (as determined by titration with titanium trichloride) not less than 85.0%.

Warner-Jenkinson FD&C Blue No. 1 Average—89-92% pure dye

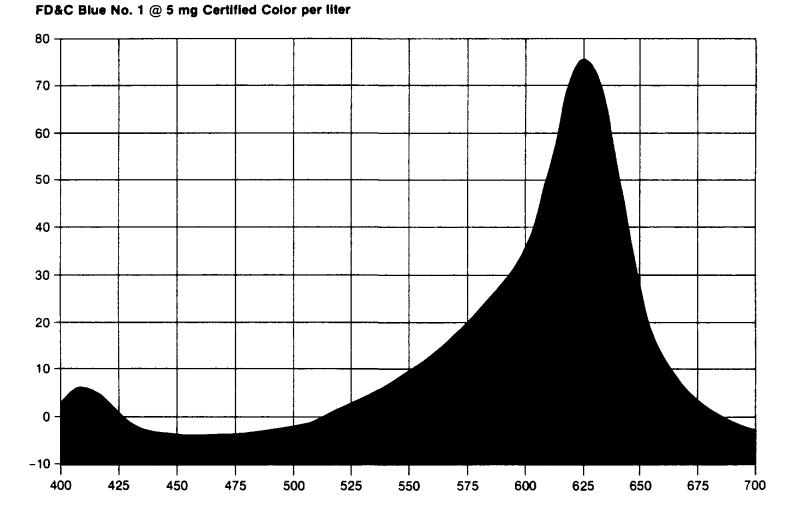


Exhibit 3B

Heat Seal Coater Waste Sludge

U.S. DEPARTMENT OF LABOR Occupational Safety and Health Administration

Form Approved OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

Issue Date:

6/82

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbullding, and Shipbreaking (29 CFR 1915, 1916, 1917)

| | | | .,, 120 0 | | |
|---|-------------------|-------------------------|--|-----|----------------|
| | | SEC1 | TION I | | |
| MANUFACTURER'S NAME | EMERGENCY TELEPHO | EMERGENCY TELEPHONE NO. | | | |
| Pfizer Inc., Special Chemicals | (919) 292-178 | 1 | | | |
| ADDRESS (Number, Street, City, State, and ZIP of 2110 High Point Rd., Greensbor | | | 03 | · | |
| E STATE OF THE STATE OF | | | AND THE PROPERTY OF THE PROPER | | |
| Ester | | <u> </u> | C20H26O4 | | |
| SECTIO | NII - | HAZA | RDOUS INGREDIENTS | | |
| PAINTS, PRESERVATIVES, & SOLVENTS | * | TLV (Units) | ALLOYS AND METALLIC COATINGS | * | TLV (Units) |
| PIGMENTS NOT | | | BASE METAL NOT | | |
| CATALVET | 1 . | J | ALLOVE A 17E1. | - 1 | |

CATALYST Applicable

VEHICLE

VEHICLE

METALLIC COATINGS

SOLVENTS

FILLER METAL
PLUS COATING OR CORE FLUX

OTHERS

OTHERS

Not Applicable (not a mixture)

Not Applicable (not a mixture)

| SECTION III - PHYSICAL DATA | | | | | | |
|----------------------------------|-----------|--------------------------|---------|-------|--|--|
| BOILING POINT at 4 mm | 200-235°c | SPECIFIC GRAVITY (H2O=1) | at 20°C | 1.148 | | |
| VAPOR PRESSURE (mm He) at 150°C | 0.1 mm Hg | SERCENT VOLATILE | | | | |
| VAPOR DENSITY (AIR-1) | 11.6 | EVAPORATION RATE | | <1 | | |
| SOLUBILITY IN WATER | Insoluble | Melting point | | 63°C | | |
| APPEARANCE AND ODOR White powder | - Ester o | dor | | | | |

| SECTION IV - FIRE AN | D EXPLOSION HAZARD DAT | ГА | |
|---|-------------------------------------|-------------|--|
| FLASH POINT (Method used) (C.O.C.) 405°F | FLAMMABLE LIMITS Not Established | L,el | Uel |
| EXTINGUISHING MEDIA Water, CO., Foam | | | ************************************* |
| SPECIAL FIRE FIGHTING PROCEDURES | lly required | | |
| · | | | · · · · · · · · · · · · · · · · · · · |
| UNUSUAL FIRE AND EXPLOSION HAZARDS' Fire Hazard: Slight, when exposed to he | at or flame. Can react | with oxidiz | ing |
| materials. | • | | |

| SECTION V - HEALTH HAZARD DATA | |
|---|-------------|
| THRESHOLD LIMIT VALUE Not Established (approved indirect food addit | ive) |
| EFFECTS OF OVEREXPOSURE Excessive contact may result in eye or skin irritation. Low vapor p | |
| temperature minimizes inhalation exposure. Avoid contact with mist | or spray. |
| EMERGENCY AND FIRST AID PROCEDURES Flush skin and eyes with plenty of wa | ter and get |
| medical attention for eyes. | |
| | <u>-</u> |

| | $-\tau$ | | | | | | | | |
|----------------|---------|--------------|-------|----------|---------------------|--|--|--|--|
| STABILITY | | UNSTÄBLE | | CONDITIO | CONDITIONS TO AVOID | | | | |
| | ST | ABLE | х | Avoid | high temperatures | | | | |
| INCOMPATABIL | | | | Oxidiz | ing materials | | | | |
| HAZARDOUS D | ECOMPO | SITION PRODU | ICTS | Not Es | tablished | | | | |
| HAZARDOUS | | MAY OCCU | A | | CONDITIONS TO AVOID | | | | |
| POLYMERIZATION | | WILL NOT | OCCUB | | Not Applicable | | | | |

| SECTION VII - SPILL OR LEAK PROCEDU | JRES . |
|--|--|
| STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED | |
| Sweep up spills. Flush area with water. | |
| - | to the second se |
| WASTE DISPOSAL METHOD Any normal disposal procedure which is | in conformance with |
| pertinent federal, state or local regulations. | para la |
| | |

| | SECTION VIII - SPECIAL | PROTECTION INFORMATION |
|---------------|----------------------------------|--|
| RESPIRATORY P | ROTECTION (Specify type) ADDTOVE | i dust mask |
| VENTILATION | LOCAL EXHAUST Satisfactor | SPECIAL |
| | MECHANICAL (General) | OTHER |
| PROTECTIVE GL | Rubber gloves | EVE PROTECTION Safety glasses or goggles |
| OTHER PROTECT | IVE EQUIPMENT Dustcaps | |

| SECTION IX - SPECIAL PRECAUTIONS | |
|--|--|
| PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Store away from oxidizing materials. | |
| OTHER PRECAUTIONS | |
| None normally required | |

PAGE (2)

6F0 814-810

Form OSHA-20 Rev. May 72

This MSUS is hared on a limited review of Pfizer's files and standard toxicology hamilmoke.
The information herein is furnished without warranty of any kind. This information about be used only as a supplement to information already in your possession encerning this product. The determination of whether and under what conditions the product should be used by your employees is yours to make.

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

| Shipbuilding, | and S | Shipbreski | ng (29 CFR 1915, 1916, 1917) | | |
|--|--------------|----------------|---|-------------|-----------------|
| | | SEC | TION I | | |
| MANUFACTURER'S NAME UNITEX CHEMICAL CORP. | | | EMERGENCY TELEPHO 919-378-09 | | |
| ADDRESS (Number, Street, City, State, and ZIP Co. D. O. BOX 16344, 520 BTC | ode) Oome | Rd., | Greensboro, N. C. 27406 | | |
| CHEMICAL NAME AND SYNONYMS DICYCLONEXY1 Phthalate CHEMICAL FAMILY | | | FORMULA | | <u>.</u> |
| | | | | | |
| SECTION | 111 - | HAZA | RDOUS INGREDIENTS | | |
| Paints, preservatives, & solvents | % | TLV !Unitai | ALLOYS AND METALLIC CCATINGS | - 15 | TLV (Units) |
| PIGMENTS Not applicable | | | BASE METAL | | |
| CATALYST | | | ALLOYS | | |
| VEHICLE | | 1 | METALLIC COATINGS | | |
| SOLVENTS | | | FILLER METAL PLUS COATING OR CORE FLUX | | |
| AQQITIVES | | ' | OTHERS | | |
| OTHERS | | | | | |
| SRUTXIM SUODRAZAH | S 0.5 (| וע היאדם | DUIDS, SOLIDS, OR GASES | * | TLV (t):its) |
| None know | wn | | | | |
| | | | | | |
| | | | | 1 1 | ! |
| | | | | | |
| | T 101 | | NIVO CAL CATA | | |
| | 1101 | <u> </u> | PHYSICAL DATA | | |
| SOILING POINT (SF.) | ! | | SPECIFIC GRAVITY (H20=1) | 1 1. | . 29 |
| VAPOR PRESSURE (mm Hg.) @150° C | ,)(| 0.1 | SY VOLUME (%) | | |
| VAPOR DENSITY (AIR+1) | <u>:</u> | | (| | |
| SCLUBILITY IN WATER | | <u>solubi</u> | · * | | |
| APPEARANCE AND GOOR WILL | 13 : | 50113 | - mild odor | | |
| SECTION IV . | FIR | E AND E | XPLOSION HAZARD DATA | | |
| FLASH POINT (Method used) 05° F. C. (| o. 0 | 3. | FLAMMABLE LIMITS Lat | ı | Uai |
| | | | , water spray | <u></u> | |
| SPECIAL FIRE FIGHTING PROCEDURES NOT | ie | | | | |

None known

UNUSUAL FIRE AND EXPLOSION HAZARDS

SECTION - NEMERO WALARD DATA

| THRESHOLD LIMIT VALUE | 5 mg/m ³ | |
|-------------------------------|--------------------------------------|--|
| EFFECTS OF OVEREXPOSURE | None expected | |
| | | |
| EMERGENCY AND FIRST AID PROCE | eoures Water. | |
| Ingestion: No kno | own antidote, treat symptomatically. | |
| Skin: Wash with s | soap and water. | |

| | ** | • | SECT | ION VI | - 81 | EACTIVITY DATA | • |
|-----------------------------|------------|----------|-------|--------|------|---------------------|---|
| STABILITY | UNSTA | ABLE | | CONC | | | |
| | STABL | £ | X | | | | |
| INCOMPATABIL | · | - | | Avoid | st | rong oxiders | |
| HAZARDOUS CE | ECOMPOSITI | ON PRODU | None | know | תי | | • |
| HAZARDOUS POLYMERIZATION | | MAY OCCU | A | | | CONDITIONS TO AVOID | |
| | | VILL NOT | OCCUR | 1 | Х | | |

| | ION VII - SPILL OR LEAK PROCEDURES | |
|-----------------------------------|-------------------------------------|---|
| STEPS TO BE TAKEN IN CASE MATERIA | al is released or spilled | |
| Contain and reco | ver, small spill use dry absorbent. | |
| | | |
| WASTE DISHOSAL METHOD | Incineration | |
| | | |
| | | _ |

| | Section VIII - Specia | al protection information | |
|----------------|------------------------------------|-------------------------------|-----|
| RESPIRATORY PE | NOTECTION (Specify type) | | |
| VENTILATION | LOCAL EXHAUST TO COMFORT levels | SPECIAL | • • |
| | MECHANICAL (General) | OTHER | |
| PROTECTIVE GLO | Rubber gloves | EYE PROTECTION Safety glasses | |
| OTHER PROTECT | ve Equipment Normal plan | nt clothing | |

| PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING None | |
|---|---|
| None | |
| | * |
| OTHER PRECAUTIONS | ` |

Form OSHA-29 A57. May 72

Monsanto

__RUBBER & PROCESS CHEMICALS DIVISION

MONSANTO INDUSTRIAL CHEMICALS CO. 800 N. Lindbergh Boulevard St. Louis, Missouri 63166 Phone: (314) 694-1000

December 24, 1974

Mr. M. G. Magel Director of Purchasing The Brown Bridge Mills, Inc. P.O. Box 370 Troy, Ohio 45373

Dear Mr. Magel:

The enclosed Material Safety Data Sheet for Diphenyl Phthalate is being sent in response to your recent request.

Should you have any questions about this information, I shall be happy to obtain answers.

Very truly yours,

Oliver DeGarmo

Manager, Product Acceptability

Plasticizer Division

Tein La Gramo

md
att:

Form No. OSHA-20 May, 1971

Form Approved OMB No. 44-R1387 Approval Expires: July 30, 1972

MATERIAL SAFETY DATA SMEET

| | | SEC | TION I | | | |
|--|-------------|----------|---|-------------------|--|---------------|
| MANUFACTURER'S NAME | | | (EMERGENO | 694-100 | E NO. | |
| MONSANTO COMPANY ADDRESS (Number, Street, City, Street, and ZIP C 800 North Lindbergh Boulev | ode) | St I. | | 044-100 | · | |
| CHEMICAL NAME AND SYNONYMS | aru, | 56. 10 | TRADE NAME AND SY | EMYMON | | |
| Diohenyl Phthalate Phthaláte Ester | | | FORMULA CU-O | | | |
| rnthalate Ester | | | C20H1404 | | | |
| 050316 | | | DOUG INCCCDIENTS | | | |
| SECTION | | TLY | DOUS INGCEDIENTS | | | TLY |
| PAINTS, PRESERVATIVES, & SOLVENTS | - | (Units) | ALLOYS AND NETALLIC CO | ATINGS | * | (Units |
| PIGMENTS | | | BASE METAL | · | | |
| CATALYST | | | ALLOYS | | ļ | |
| VEHICLE | 1_ | | METALLIC COATINGS | | | ļ. <u> —</u> |
| SOLVENTS | | | FILLER METAL PLUS COATING OR CORE FLUX | | | |
| ADDITIVES | | | OTHERS | | | |
| DT HERS | | | | | | |
| HAZARDOUS MIXTURE | SOF | THER LIS | UIDS, SOLIDS, OR GASES | | 22 | TLY (Units |
| Not hazardous by definitions | | | | etains | | |
| to this data sheet. | 111 2. | <u> </u> | CCCTON 1 JOY 2 MITCH DE | 1.1111115 | 1 | |
| | | | | | | |
| | | | | | \vdash | |
| SECT | 101 | 111 | PHYSICAL DATA | | | |
| The second state of the second | | 2022224 | SPECIFIC GRAVITY IN-071) | | | |
| | | 05°C | | 20 ⁰ C | | .280 |
| VAPOR PRESSURE IMM MO.I 150°C | | .15 mm. | RY VOLUME 1411 EVAPORATION BATE | | 11 | ۸. |
| | <u> </u> | .A. | 1 Busc = 11 | | | <u> </u> |
| Regligible | | 0.01% | | · | | |
| APPEARANCE AND COCH Essentially | whit | te soli | d | | | |
| SECTION IV | FI | RE AND | EXPLOSION HAZARD (| ATA | | |
| FLASH FOINT INSINCE VEEDI COC | 435 | °F | FLAN MADLE LIMITS N.A. | (o) | | Unl |
| EXTINGUISHING MEDIA Dry powder. A | | | l form, water for | | | |
| SPECIAL FIRE FIGHTING PLOCEDURES | - | | | | | |
| | | | | | | |
| | | | | | | |

| Diphenyl Pht | halate SE | TION | у н | EALTH | HAZAR | D DATA |
|--|---|--------------|---|---------------------|-------------|--|
| THRESHOLD LIMIT | ALUE Not esta | blishe | d. | | | : |
| EFFECTS OF OVEREN | POSURE Impossil | le at | ambient | temper | ature. | Excessive high temperature |
| | uce irritating | vapor | s. | | | • |
| EMERGENCY AND FI | RST AID PROCEDURES | ary. R | emove to | frest | air. | |
| | | | | | | |
| | | | | | | |
| | · | SECTIO | | | | Y DATA |
| STABILITY | UNSTABLE | | CONDITION | IS TO AV | วโอ | |
| | STABLE | x | | • | | |
| INCOMPATABILITY (| | None | | | | |
| HAZARDOUS DECOM | POSITION PRODUCTS | Smoke. | soot. C | 0. CO- | · | |
| HAZARDOUS | MAY DCCUR | | 1 | CONDITIONS TO AVOID | | |
| POLYMERIZATION | WILL NOT O | CUA | x_ | | | |
| | | | | | | |
| | SECTI | N AÍI | SPI | LL O | R LEAK | PROCEDURES |
| STEPS TO BE TAKES | IN CASE MATERIAL IS | HELEASED | OR SPILLED | | | |
| Clean un | like other no | nahazai | rdous li | au ide | | |
| O Team do | TIRE OTHER HE | II IIGZG | 1 4043 11 | gu ru s i | | |
| WASTE DISPUSAL M | ETHOD Same a | s moto | r oil | | | |
| | Johns & | 3 1110 (0) | 0111 | · | | |
| | | | | | | |
| to the second se | SECTION \ | 'III | SPECI | AL P | ROTECT | ION INFORMATION |
| RESPIRATORY PROTE | CTION (Specify type) | Not ne | ecessary | | | |
| VENTILATION | LOCAL EPHANST | | cassivel | | temp. | SPECIAL |
| | MECHANICAL IGEN | | ot neces | | | OTHER |
| PROTECTIVE GLOVE | | | | | OTECTION | Not necessary except as |
| OTHER PROTECTIVE | Not necessa EQUIPMENT None | <u>' Y.•</u> | | | ······ | good industrial practice. |
| литер и роского подара дол — опоходар возградиций, у около предостава и Обраниев, и на портубление дол и | الله المستقدم المستق | | ementy increase programme in a financial Prife Plane in the nazione in a monthological | | | oment (1 i vol. 1 de ambiente per entrops et en trap et l'American (19) par ellé della serva entropresser de d 1 i vol. 1 et 19, 1 de graf proposition de de la communité de l'applicable en de Builde trap de la débugation de |

SECTION IX SPECIAL PRECAUTIONS

necessary, good industrial practice as to Housekeeping, personal hygiene,

OTHER PRECAUTIONS avoidance of prolonged and repeated skin contact and splashing

In eyes is indicated.

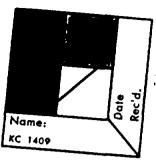
While the information and recommendations set forth herein are believed to be accurate as of the date hereof, MONSANTO COMPANY MAKES NO WARRANTY WITH RESPECT THERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

HOH: EPW: WEP

MATERIAL DOW CHEMICAL U.S.A. MIDLAND MI

EFFECTIVE DATE: 15 AUG 78

PRODUCT NAME:



TASHEET PAGE: 1 RGENCY PHONE: 517-636-4400

PRODUCT CCDE: 44280

MSD: 0466

INGREDIENTS (TYPICAL VALUES-NOT SPECIFICATIONS)

A POLYMER DISPERSED IN WATER ..

SECTION 1

PHYSICAL DATA

BOILING POINT: 212F

VAP PRESS: ----

VAP CENSITY (AIR=1): ----

: SOL. IN WATER: EMULSION : SP. GRAVITY: 1.0076-1.0159

: x VOLATILE BY VOL: 51-54

APPEARANCE AND ODOR: MILKY WHITE LIQUID EMULSION - SLIGHT NH3. THE PHYSICAL DATA LISTED ARE FOR A SERIES OF LATEXES. FOR SPECIFIC PROPERTIES ON ANY GIVEN

LATEX SEE THE PRODUCT BULLETIN.

SECTION 2

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: NONE METHOD USED: ---- : FLAMMABLE LIMITS (STP IN AIR) : LFL: NOT APPL. UFL: NOT APPLIC-

EXTINGUISHING MEDIA: WATER FOG - DRIED RESIN ONLY.

SPECIAL FIRE FIGHTING EQUIPMENT AND HAZARDS: BURNING DRY

RESIN EMITS DENSE. BLACK SMOKE. AS LATEX. MATERIAL IS NOT FLAMMABLE, HOWEVER, THE DRIED RESIN IS FLAMMABLE SIMILAR TO WOOD.

SECTION 3

REACTIVITY DATA

STABILITY: NON-REACTIVE. MAY COAGULATE IF FROZEN AT 32F. RESIN. DRIED. IS COMBUSTIBLE. INCOMPATIBILITY: ADDITION OF CHEMICALS MAY CAUSE COAGULATION. HAZARDOUS DECOMPOSITION PRODUCTS: PRODUCES DENSE, BLACK SMOKE IF BURNED. HAZAROOUS POLYMERIZATION: ----

SECTION 4 SPILL, LEAK, AND DISPOSAL PROCEDURES

ACTION TO TAKE FOR SPILLS (USE APPROPRIATE SAFETY EQUIPMENT): EXERCISE CARE TO AVOID UNNECESSARY EXPOSURE AND CONTACT. WILL COLOR STREAMS AND RIVERS TO A MILKY WHITE. HAS PRACTICALLY NO BIOLOGICAL OXYGEN DEMAND BUT WILL SETTLE OUT AND FORM SLUDGE OR FILM. MAY PLUG UP SANITARY SEWERS.

DISPOSAL METHOD: DIVERT TO POND AND LET GRY. BURY OR BURN SOLID WASTES. FLUSH SEWERS WITH LARGE AMOUNTS OF WATER. FLUSH AREA WITH WATER IMMEDIATELY.

(CONTINUED ON PAGE 2) (R) INCICATES A REGISTERED OR TRADEMARK NAME OF THE DOW CHEMICAL COMPANY MATERIAL SAFETY DATA SHEET PAGE: 2 DOW CHEMICAL U.S.A. MIDLAND MICHIGAN 48640 EMERGENCY PHONE: 517-636-4400

IFFECTIVE DATE: 15 AUG 78
PRODUCT (CONT*D): LATEX 234

PRODUCT CODE: 44280 MSD: 0466

SECTION 5

....

HEALTH HAZARD DATA

INGESTION: LOW SINGLE DOSAGE TOXICITY.

EYE CONTACT: MINOR TO SLIGHT IRRITATION TO EYES.

SKIN CONTACT: SHORT EXPOSURE: NO IRRITATION. REPEATED. PROLONGED EXPOSURE. ESPECIALLY IF CONFINED: MILO IRRITATION. POSSIBLY A MILO SUPERFICIAL BURN.

SKIN ABSORPTION: NOT ABSORBED IN TOXIC AMOUNTS.

INHALATION: NOT A PROBLEM. CONSIDERED TO BE LOW IN HAZARD FROM INHALATION.

EFFECTS OF OVEREXPOSURE: ----

SECTION 6

FIRST AID--NOTE TO PHYSICIAN

FIRST AID PROCEDURES:

EYES: IRRIGATION OF THE EYE IMMEDIATELY WITH WATER FOR 5 MINUTES IS GOOD SAFETY PRACTICE.

SKIN: CONTACT WILL PROBABLY CAUSE NO MORE THAN IRRITATION. WASH OFF IN FLOWING WATER OR SHOWER. WASH CLOTHING BEFORE REUSE.

INHALATION: REMOVE TO FRESH AIR IF EFFECTS OCCUR. CONSULT MEDICAL PERSONNEL.

INGESTION: LOW IN TOXICITY - INDUCE VOMITING IF LARGE AMOUNTS ARE INGESTED.

NOTE TO PHYSICIAN:

EYES: MAY CAUSE MILD IRRITATION. STAIN FOR EVIDENCE OF CORNEAL INJURY.

SKIN: MAY CAUSE MILD IRRITATION. TREAT AS ANY CONTACT DERMATI-TIS. IF BURN IS PRESENT, TREAT AS ANY THERMAL BURN.

RESPIRATORY: NO EFFECT EXPECTED.

ORAL: LOW IN TOXICITY-

GENERAL: HUMAN EFFECTS NOT ESTABLISHED. NG SPECIFIC ANTIDOTE.
TREATMENT BASED ON THE SOUND JUDGMENT OF THE PHYSICIAN
AND THE INDIVIDUAL REACTIONS OF THE PATIENT.

SECTION 7 SPECIAL HANDLING INFORMATION

VENTILATION: GOOD ROOM VENTILATION USUALLY ADEQUATE FOR MOST OPERATIONS. RESPIRATORY PROTECTION: NONE NORMALLY NEEDED.
PROTECTIVE CLOTHING: CLEAN. BCDY-COVERING CLOTHING.
EYE PROTECTION: SAFETY GLASSES WITHOUT SIDE SHIELDS.

SECTION 8 SPECIAL PRECAUTIONS AND ADDITIONAL INFORMATION

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: STORE AT TEMPERATURES BETWEEN 40F AND 90F. MATERIAL MAY DEVELOP BACTERIA ODOP ON LONG TERM STORAGE. NO SAFETY PROBLEMS KNOWN. PRACTICE REASONABLE CARE TO AVOID REPEATED, PROLONGED SKIN CONTACT.

(CONTINUED ON PAGE 3)

(R) INDICATES A REGISTERED OR TRADEMARK NAME OF THE DOW CHEMICAL COMPANY

MATERIAL SAFETY DATA SHEET PAGE: 3 DOW CHEMICAL U.S.A. MIDLAND MICHIGAN 48648 EMERGENCY PHONE: 517-636-4400

PRODUCT (CONT'D): LATEX 234

PRODUCT CODE: 44280 MSD: 0466

SECTION 8 SPECIAL PRECAUTIONS AND ADDITIONAL INFORMATION (CONTINUED)
ADDITIONAL INFORMATION: ----

LAST PAGE

(R) INDICATES A REGISTERED OR TRADEMARK NAME OF THE DOW CHEMICAL COMPANY
THE INFORMATION HEREIN IS GIVEN IN GOOD FAITH, BUT NO WARRANTY,
EXPRESSED OR IMPLIED, IS MADE.

MATERIAL SAFETY DATA SHEET

(Approved by U.S. Department of Labor "Essentially Similar" to Form LSB-00S-4)

| | | DATE SUBMITTED | |
|--|--|---|---|
| (617) 861-6600 DARE | X Latex Product Manager | Septemb | er 2, 1980 |
| CHEMICAL NAME AND SYNONYMS | | TRACE NAME | |
| CHANGE TO ANNO | | FORMULA | |
| CHEMICAL FAMILY Butadiene Styrene Co | polymer Latex | Proprieta | rv |
| Decided and September 00 | | | |
| 70 m | Section II - HAZA | RDOUS INGREDIENTS | |
| , | MATERIAL | * | TLV (Units) |
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| | Section III | PHYSICAL DATA: | |
| | Section IIIs — F | PHYSICAL DATA. | |
| | Section III F | PHYSICAL DATA: SPECIFIC GRAVITY (M ₂ 0=1) | 1 |
| HOILING POINT (°F.) VAPOR PRESSURE (mm Hg.) | | SPECIFIC GRAVITY (M20=1) PERCENT VOLATILE Weight % | 1 44-46 |
| ORIGING POINT (°F.) /APOR PRESSURE (mm Hg.) | | SPECIFIC GRAVITY (M20=1) PERCENT VOLATILE Weight & EXXEDEMERATION RATE | |
| APOR PRESSURE (mm Hg.) APOR OENSITY (AIR=1) | 212 | SPECIFIC GRAVITY (M ₂ 0=1) PERCENT VOLATRE Weight & EXXEDIMENTICK | 1 44-46 Slightly less than water |
| APOR PRESSURE (mm Hg.) APOR DENSITY (AIR=1) OLUBILITY IN WATER | 212 Dispersible | SPECIFIC GRAVITY (M20=1) PERCENT VOLATILE Weight & EXXEDEMERATION RATE | |
| VAPOR PRESSURE (mm Hg.) VAPOR DENSITY (AIR=1) COULDILITY IN WATER | Dispersible Off-white emul- | SPECIFIC GRAVITY (M20=1) PERCENT VOLATILE Weight & EXXEDEMERATION RATE | |
| DOKING POINT (°F.) | Dispersible Off-white emul- | SPECIFIC GRAVITY (M20=1) PERCENT VOLATILE Weight & EXXEDEMERATION RATE | |
| VAPOR PRESSURE (mm Hg.) VAPOR DENSITY (AIR=1) COULDILITY IN WATER | Dispersible Off-white emul- | SPECIFIC GRAVITY (M ₂ 0=1) PERCENT VOLATRE Weight % EXXIBILIME(35)X EVAPORATION RATE (| |
| VAPOR PRESSURE (mm Hg.) VAPOR DENSITY (AIR=1) COURSILITY IN WATER APPEARANCE AND GOOR | Dispersible Off-white emul- sion. Odor characteristic of styrene polym | PERCENT VOLATRE Weight & EXCHENDINGUESCON FATE (| Slightly less than water. |
| APOR PRESSURE (mm Hg.) APOR DENSITY (AIR=1) OLUBILITY IN WATER APPEARANCE AND GOOR | Dispersible Off-white emul- sion. Odor characteristic of styrene polym | SPECIFIC GRAVITY (M ₂ 0=1) PERCENT VOLATRE Weight % EXXIBILIME(35)X EVAPORATION RATE (| Slightly less than water. |
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| APOR PRESSURE (mm Hg.) APOR DENSITY (AIR=1) OLUBILITY IN WATER APPEARANCE AND GOOR LASH POINT (METHOD USED) Abo | Dispersible Off-white emul- sion. Odor characteristic of styrene polym | PERCENT VOLATE Weight & EXXED METALX EVAPORATION RATE (| Slightly less than water |
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| APOR PRESSURE (mm Hg.) APOR DENSITY (AIR=1) OLUBILITY IN WATER APPEARANCE AND GOOR EASH POINT (METHOD USED) Abo | Dispersible Off-white emul- sion. Odor characteristic of styrene polym | PERCENT VOLATE Weight & EXXED METALX EVAPORATION RATE (| Slightly less than water. |
| APOR PRESSURE (mm Hg.) APOR DENSITY (AIR=1) OLUBILITY IN WATER PPEARANCE AND GOOR LASH POINT (METHOD USED) ADO: KTINGUISHING MEDIA | Dispersible Off-white emul- sion. Odor characteristic of styrene polym | PERCENT VOLATE Weight & EXXED METALX EVAPORATION RATE (| Slightly less than water |

The information contained berein is for OSHA purposes only and is based upon our knowledge current as of the date submitted. No change to the specifications pursuant to which the goods are rold is intended or should be implied and ALL WARRANTIES, express or implied, as to the accuracy of such information are EXCLUDED.

Organic Chemicals Division W.R. Grace & Co. Lexington, Mass. 02173 (617) 861-6600



| | Section | one V. — | HEALTHE | HAZARD D | IATAL | | |
|--|------------------------------|---------------------------------------|--------------|---------------------------------------|--|--|--|
| THRESHORD LIMIT VALUE | Not established | l, ingest | ion like | ly to be | harmful. | | |
| EFFECTS OF OVEREXPOSURE | | | | | | | 1 |
| (| | | | | | | |
| | | | | | | | |
| EMERGENCY AND FIRST AID | PROCEDURES Wash skin with | soap and | water. | Flush ey | es with water | | |
| | and get medical | | | | | | |
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| | | | | | | | |
| | ew SEC | TIONEVE | REAC | TIVITY: DA | TASAS ON COMP | Park La Property | THE THE THE |
| STABILITY | UNSTABLE | | CONDITIO | NS TO AVOID | • | • | |
| | STABLE ! | x | | ··· | | · · · · · · · · · · · · · · · · · · · | |
| INCOMPATIBILITY (Materia | | 1 | | | | | |
| HAZARDOUS DECOMPOSITIO | ON PRODUCTS | | | | | | |
| | | | | | | | |
| | MAY OCCUR | | | CONDITIONS TO | DAVOID | | |
| HAZARDOUS POLYMERIZATION | WILL NOT OCCUR | | | · · · · · · · · · · · · · · · · · · · | · · · · · · · · · · · · · · · · · · · | | |
| | WILL NOT OCCUR | | Х | · · · · · · | | | |
| and the same of th | Section : | VIII SE | PILL OF I | EAK DROC | EDITOES | | |
| | E MATERIAL IS RELEASED OR | | TEL OR L | LAR FRUC | EDURES | | |
| | E MATERIAL IS RELEASED OR | 37 KLED | | | ·- | | |
| Citizan y | Flush with wate | r or soa | k up on | industria | l absorbent. | | |
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| WASTE DISPOSAL METHOD | | | | | | | |
| | Consult state r | egulatio | ns. | | ······································ | | |
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| | | SPECIA | AL PROTE | CTION IN | FORMATION | شريعا للاربيعينهم | |
| RESPIRATORY PROTECTION | | | | | | | |
| VENTILATION | LOCAL EXHAUST X | | | | SPECIAL | | |
| | MECHANICAL (General) | | | <u>.</u> | OTHER | | |
| PROTECTIVE GLOVES | Rubber | | | EYE PROTECTIO | Goggles | | |
| OTHER PROTECTIVE EQUIPMI | ENT | | | | | | |
| | | · · · · · · · · · · · · · · · · · · · | | | | | |
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| | Section 5 | in: IXC | SPECTAL | PRECAUTIO | ONS | The second of th | The state of the s |
| HEO HE TAKEN | IN HANDLING AND STORING | | | | | | |
| *** | Exposure to fre | ezing te | mperatur | es may da | mage latex. | | . : |
| WHER PRECAUTIONS | | | | | | | |
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MATERIAL SAFETY DATA SHEET

(Approved by U.S. Department of Labor "Essentially Similar" to Form LSB-00S-4)

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|--|--|--|----------------------|---------------|
| (617) 861-6600 DAREX | Latex Product Ma | DATE SUBMITTED | ptember | 2, 1980 |
| CHEMICAL NAME AND SYNONYMS | | TRACE NAME | green and the second | |
| CHEMICAL FAMILY | | FORMULA | A SAME PROPERTY. | • |
| Polystyrene | Latex | Pro | prietaz | у |
| A Committee of the Comm | Section IF - HAZA | RDOUS INGREDIENTS. | | |
| | MATERIAL | | * | TLY (Units) |
| Polymer and St | abilizers | | 50.5 | |
| Water | | | 49.5 | |
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| | Section III - | PHYSICAL DATAL | | |
| SOIUNG POINT (*F.) | 212 | SPECIFIC GRAVITY (H,0=1) | | 1.0 |
| VAPOR PRESSURE (mm Hg.) | | PERCENT VOLATILE Weigh | it 8 | 49.5 ± 1 |
| VAPOR DENSITY (AIR=1) | | EVAPORATION RATE | | slightly less |
| SOUBILITY IN WATER | Dispersible | | | than water |
| APPEARANCE AND ODOR | Off-white emuls | ion | | |
| | | stic of styrene p | olvmers | |
| | | | | |
| District Control | CONTRACTOR OF THE CONTRACTOR O | EVOLOGIONE LIAZZAGIONE | ATA | |
| SLACH BOINT (METHOD HEED) | | EXPLOSION: HAZARDAD | 74 74 50 30 50 | Lei Uei |
| Above | 140°F | PEARMAGE UMITS | | Las Usi |
| EXTINGUISHING MEDIA | ··· | ······································ | | |
| SPECIAL FIRE FIGHTING PROCEDURES | | | | |
| | | | | |
| UNUSUAL FIRE AND EXPLOSION HAZARDS | | | | |

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Organic Chemicals Division

W.R. Grace & Co. Lexington, Mass. 02173 (617) 861-6600



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|--|---|-----------------------|----------|----------------|--|--|--|---------------|
| Figure Service | 50 | ection V - | - HEALT | H-HAZARD: D | JATA. | | | |
| THRESHOLD LIMIT VALUE | Not estab | lished. | inges | tion likel | y to be | harmful. | | |
| TCTS OF OVERBUROSUS | | | | | | | | |
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| EMERGENCY AND PIRST A | io Procedures Was | h skin | with so | pap and wa | ter. F | lush eyes | with | |
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| STARRUTY | UNITABLE | | | TICHE TO AVOID | | | | |
| | STABLE | X | | | | , | | • |
| INCOMPATIBILITY (Mater | ids to avoid) | | | • | | | · · · · · · · · · · · · · · · · · · · | |
| MAZARDOUS DECOMPOSIT | TON PRODUCTS | | | | | ······································ | | |
| | | | | | | | | |
| | MAY OCCUR | | | CONDITIONS TO | AVOID | | | - |
| HAZARDOUS. POLYMERIZATION | WILL NOT OCCUR | | х | | | • | | |
| | | | | | ······································ | - | · · · | |
| | Section | r VII — | SPILL OR | LEAK PROC | FULIBES | | | |
| S TO SE TAKEN SE CA | SE MATERIAL IS RELEASED | | 37722 GR | | EBORES | | | |
| | | | | | | · · | | |
| | Flush | with wat | er or | soak up o | n indus | trial abs | orbent. | |
| ····· | | | | | | · · · | | |
| VASTE DISPOSAL METHOD | | | | | | · | | |
| TASTE DISPOSAL METHOD | | | ······ | | | | | |
| | Settli | ng ponds | or bu | rial. | <u> </u> | | • | |
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| The same of the sa | | Ma ^{na} cosc | TIAT DOG | TECTION IN | -004-6710 | | الروخ ويهدانوان | e |
| | | II SPEC | JAL PRO | ITECTION: INF | -ORMATIC | . NE | | |
| ASPIRATORY PROTECTION | | | | | | | | |
| ENTILATION | LOCAL EDIAUST | X | | | SPECIAL | | | |
| | MECHANICAL (General | () | | | OTHER | | | |
| ROTECTIVE GLOVES . | Rubber | | | EYE PROTECTIO | | Goggles | | |
| THER PROTECTIVE SQUIPM | ABAT | | | | • | | | |
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| | Sec. | tian IX. | SPECIA | L. PRECAUTIC | JNS. | | The state of the s | *** |
| ACAUTIONS TO BE TAKEN | EXPOSURE to | freezi | ng tem | eratures | may dam | age later | | |
| | | | | W-01 C3 | THE A PAGE | ACAC TOTES | | |

THER PRECAUTIONS

GRACE

Polyfibron Division

W. R. Grace & Co. 45 North Fourth Street P.O. Box 420 Quakertown, Pennsylvania 18951

(215) 536-4600

September 5, 1980

Mr. Arthur H. Dee Manager of Purchasing Brown-Bridge Mills, Inc. P. O. Box 370 Troy, OH 45373

Dear Mr. Dee:

This refers to your August 14 letter regarding the safety classifications of our colored papers.

We have requested the pertinent information from our suppliers and will forward it to you as soon as we can.

Sincerely yours,

Bryan C. Elliott Sales Department ENDURA Products

BCE:blh

cc: H. J. Gerrior

io. 44-R1387

pproval Expires:

MATERIAL SAFETY DATA SHEET

| SECTION 'Addyston, Ohio | | | | | | | | | |
|---|------------------------|--|----------------|------------|--|--|--|--|--|
| MONSANTO COMPANY | • . | EMERS | 513) 941-24 | € NO | | | | | |
| AGGRESS (Number, Street, City, State, and ZIP Cade) | | | | | | | | | |
| CHEMICAL NAME AND STHONTES | | TRADE NAME AND | TYNONYME 1- VT | ON SION | | | | | |
| Aqueous Dispersion of Polystyrene CHEMICAL HAME AND SYNONYME LYTRON 5100** LYTRON 5100** | | | | | | | | | |
| | · | 701002. | | | | | | | |
| | | | | | | | | | |
| SECTION II HAZARDOUS INGREDIENTS | | | | | | | | | |
| PAINTS, PRESERVATIVES, & SOLVENTS | 7 TLV | ALLOTS AND METALLIC | TINGS | % (Unite) | | | | | |
| PIGMENTS | | BASE METAL | <u> </u> | | | | | | |
| CATALYST | | ALLOYS | | | | | | | |
| VEHICLE | | METALLIC COATIN' | | \ | | | | | |
| SOLVENTS | | FILLER METAL TO TO TO THE STATE OF THE STATE | | / | | | | | |
| ADDITIVES | | OTHERS | \000° 00' - | | | | | | |
| 'HEAS | | | Doug 9. | | | | | | |
| HAZARDOUS MIXTUR | LES OF OTHER | IQUIDS, SOLIDS, OR GASES | $\sqrt{}$ | % (Units) | | | | | |
| Contains 1,000 ppm or less | of formalde | hyde (added as a bacte | riacide) | .1 2 ppm . | | | | | |
| | | | | | | | | | |
| | | | | - | | | | | |
| | | | | | | | | | |
| SEC | TION·III | PHYSICAL DATA | • | | | | | | |
| soiling point (F.) Water | 212 | SPECIFIC GRAVITY INZO=11 | | 1.03 | | | | | |
| VAPOR PRESSURE (MM Heal Water | 17.5 | PERCENT VOLATILE | | 54 | | | | | |
| VAPOR DENSITY (AIR=1) Water | 0.62 | | | 1 | | | | | |
| XXXXXXIN WATER Dispersibility | Complet | e | | | | | | | |
| AFFEARANCE AND ODOR White | | ight acrid odor. | | | | | | | |
| - SECTION IV . | FIRE AN | D EXPLOSION HAZARD | DATA | | | | | | |
| FLASH POINT IMMINDE WENET N/A | | FLAMMABLE LIMITS N/A | Lai | Uel | | | | | |
| EXTINGUISHING MEDIA Water | fog, CO ₂ , | | | | | | | | |
| SPECIAL FIRE FIGHTING PROCEDURES NOTE | | , | | | | | | | |
| , 3 | | | | | | | | | |
| UNUSUAL FIRE AND EXPLOSION HAZARDS N/ | 'A | 1 | | | | | | | |
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| A STATE OF THE STATE OF | A1 115 | | | | | | | |
|---|----------------------|---------------|---------------------------|---------------------|------------------|--|--|--|
| None established | | | | | | | | |
| None established | | | | | | | | |
| | | | | | | | | |
| AND FIRST AND PROCEDURES Use normal procedures such as removal of soaked | | | | | | | | |
| clothing or showers. Flush eyes with water to | | | | | | | | |
| prevent local irritation. | | | | | | | | |
| DEACTIVITY DATA | | | | | | | | |
| SECTION VI REACTIVITY DATA | | | | | | | | |
| STABILITY UNSTABLE | | | | CONDITIONS TO AVOID | | | | |
| | STABLE | | XX | XX | | | | |
| INCOMPATABILITY (M | aterials | so evoid) | None | | · | | | |
| HAZARDOUS DECOMP | OITIZO | resin c | ontent | cn | uld vi | eld CO and ^{CO} 2 as well as ^H 2 ^O . | | |
| HAZARDOUS | | MAY OCCUR | | | | CONDITIONS TO AVOID | | |
| POLYMERIZATION | į | WILL NOT OC | CUR | | XX | | | |
| | | | | | | | | |
| | | | | | | ** | | |
| | | SECTIO | N VII | | SPIL | L OR LEAK PROCEDURES | | |
| Contain Spil | N CASE | MATERIAL IS A | C OP SA | a s | PILLED | Use drying agent to soak up or "bail" | | |
| | | | | _ | | air dry, and collect polymers; (2) sprinkle | | |
| F. li-Floc" | or o | ther sui | table c | oa | gulant | and wash down spill with plenty of water. | | |
| | | | | | | ollected spillage. Alternative: sprinkle | | |
| | | | | | | ystem with plenty of water if local | | |
| regulations | | | M4311 CO | | CHC! 3 | y stem with pichty of water in rocal . | | |
| | | | | - | | | | |
| | SE | CTION VI | III | S | PECIA | L PROTECTION INFORMATION | | |
| RESPIRATORY PROTEC | TION (S | pecify type) | Not n | ee: | ded | | | |
| VENTILATION | LOCA | L EXHAUST | | | | entilation SPECIAL | | |
| | MECHANICAL (General) | | | | | . OTHER | | |
| PROTECTIVE GLOVES | • | Rubber | EYE PROTECTION Goggles | | | | | |
| Rubberized gloves EVE PROTECTION Goggles OTHER PROTECTIVE EQUIPMENT Rubber shoes or boots | | | | | | | | |
| | | | | | | | | |
| SECTION IX SPECIAL PRECAUTIONS | | | | | | | | |
| RECAUTIONS TO BE TAKEN IN HANDLING AND STORING Recommend storage at 70°F. Do not freeze. | | | | | | | | |
| | | | | | | | | |
| TYDICALL | | | h a n b = c | | | Widowinski Danton C | | |
| Do not sta | uncar ack o | ver 3 pal | lets h | ca- iat | yellum L. Exp | "Liquipak" Protect from puncture ort container is 20 gauge steel drum. | | |

unile the information and recommendations set forth herein are believed to be accurate as of the date hereof, MONSANTO COMPANY MAKES NO WARRANTY WITH RESPECT THERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

May, 1971

MATERIAL SAFETY DATA SHEET

| | Control of the South | Profesional Confesion Conf | | | | <i>محمد استخسانسیا</i> ا | | |
|---|---|--|--------------------------------|--------------------------|-------|-----------------------------|--|--|
| | _ | SECT | non i | Addyston, Ohi | | · | | |
| MONSANTO CO | MPANY | • | ••. | (513) 941-240 | K HO. | | | |
| 800 North Lindb | ergh Bouleva | rd, St. Lo | uis, Mi | ssouri 63166 | | | | |
| Aqueous Disper | sion of Pol | vstvrene | | TRADE HAME AND SYNCHTHA | | | | |
| CHEMCAL FAMLY | | <u> </u> | FORMULA | : | | | | |
| | | | | | | | | |
| SECTION II HAZARDOUS INGREDIENTS | | | | | | | | |
| PAINTS, PRESERVATIV | 25, 4 SOLY | TLY (Units) | | YS AND METALLIC COATINGS | * | TLY (Unite) | | |
| PIGMENTS | | | BASE METAL | | | | | |
| CATALYST . | | | ALLOYS | | | | | |
| VEHICLE | te Jene | | METALLIC C | GATINGS . | | | | |
| SOLVENTS | 120 | | FILLER META | IL NG OR CORE FLUX | | | | |
| ADDITIVES | - Your | | OTHERS | | | • | | |
| HERS | | | | | 1 | 1 | | |
| HAZARDOUS MIXT HES OF OTHER LIQUIDS, SOLIDS, OR GASES | | | | | | | | |
| Not hazardous by definition in 29 CFR, Section 1501.2 which | | | | | | | | |
| pertains to t | | | | | | | | |
| | | | | • | | | | |
| | | | | | | | | |
| | SECT | ON III | PHYSI | CAL DATA | : | | | |
| BOILING POINT (F.) | Water | 212°F. | SPECIFIC G | RAVITY (H2O=1) | | 1.03 | | |
| VAPOR PRESSURE IMM Hou | Water | 17.5 | PERCENT VOLATILE BY VOLUME (%) | | | 53 | | |
| VAPOR DENSITY LAIR-11 | Water | 0.62 | EVAPORATION RATE Water = 1) | | | 1 | | |
| SECRETARY IN WATER Dispersibility | نيوهر ويوبرون ويروان والمستحد المستحد والمراك المستج كوالمستخ والمستخ والمراه ويوجي والمراك والمستح | | | | | | | |
| APPEARANCE AND ODOR | White lig | | | d odor. | | | | |
| SECTION IV FIRE AND EXPLOSION HAZARD DATA | | | | | | | | |
| FLASH POINT (Method used) | N/A | | | ABLE LIMITS N/A Lot | | Uel | | |
| EXTINGUISHING WEDIA Water fog, CO 2 foam | | | | | | | | |
| SPECIAL FIRE FIGHTING PROCEDURES NOTE | | | | | | | | |
| | | | | | | | | |
| UNUSUAL FIRE AND EXPLOS | ON HAZAROS | N/A | | , | | | | |
| | • | | | | | | | |
| | | | | | | | | |

SECTION V HEALTH HAZARD DATA

| THRESHOLD LIMIT VALUE None' established | | | | | | | | |
|---|--|--------------------|-------|------------|----------------|--------------------------|--|--|
| None established | | | | | | | | |
| | | | | | | | | |
| EMERGENCY AND FIRST AID PROCEDURES. Use normal hydienic procedures such as removal of soaked clothing, | | | | | | | | |
| or showers. Flush eyes with water to prevent local irritation. | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| SECTION VI REACTIVITY DATA | | | | | | | | |
| STABILITY | UNSTABLE CUNDITIONS TO AVOID | | | | | | | |
| | STABLE | | XX | | | | | |
| INCOMPATABILITY (M | laterials t | e avend) | | · · · | | | | |
| HAZAMOOUS DECOME Burning of | C res | mooucts in cont | ent | cou | ld yi | eld CO and | CO ₂ as well as H ₂ O. | |
| HAZAROOUS | | MAY OCCUR- | | | | CONDITIONS TO A | | |
| POLYMERIZATION | Ţ, | WILL NOT OCCUR | | | xx | | | |
| | ······································ | .: | | | | | | |
| | <u>-</u> | | | | | | | |
| | | SECTIO | | | | LL OR LEAK | PROCEDURES | |
| ontain st | oill a | area (d | ikino | OT | sand | bags). Use | drying agent to soak up | |
| or "bail" | aajo Ivae | r spill r, (2) | s | 註 | ernat e Fe | ives: (L) rri-Floc | allow to air dry and or other suitable | |
| coagulant | and v | wash do | wn s | oil | l wit | h plenty o | r water. | |
| WASTE DISPOSAL ME | THOO L | and fil | l di | oge | sal f | or collect | ed spillage. Alternative | |
| sprinkle s | spill | with c | oagu. | Lan | t and | wash to s | ewer system with plenty | |
| of water if local regulations permit. | | | | | | | | |
| SECTION VIII SPECIAL PROTECTION INFORMATION | | | | | | | | |
| RESPIRATORY PROTEC | TION (Sp | ecily type) | Not 1 | ree | ded | | | |
| VENTILATION | Normal room ventilation SPECIAL , | | | | | | SPECIAL | |
| | MECHA | MICAL (Gene | re() | | | | OTHER | |
| PROTECTIVE GLOVES | Rubb | erized | glove | 3 S | | EYE PROTECTION | Goggles, | |
| OTHER PROTECTIVE | EQUIPMEN | ' Rubbe | r sho | ces | or b | oots | I. | |
| | | | | | | | | |
| SECTION IX SPECIAL PRECAUTIONS | | | | | | | | |
| Recommend storage at 70°F. Do not | | | | | | | | |
| freeze. | | | | | | | | |
| Protect fi | rom p | cal con uncture | tain | er o n | is fi ot st | berboard-v ack over 3 | ellum "Liquipak". pallets high. | |
| | Export container is 20 gauge steel drum. | | | | | | | |

While the information and recommendations set forth herein are believed to be accurate as of the date hereof, MONSANTO COMPANY MAKES NO WARRANT

Occupational Safety & Health Administration MATERIAL SAFETY DATA SHEET

| SECTION I | | | | | | | | |
|--|--|---|----------|--|--|--|--|--|
| E. I. du Pont de Nemours & Co., Inc. 302-774-1000 | | | | | | | | |
| Elastomers Dept., Wilmington, DE 19898 | | | | | | | | |
| AL NAME AND STHONTMS SYNTHETIC latex FRACE HAME AND STHONTMS SYNTHETIC LATEX 735A | | | | | | | | |
| anionic neoprene colloidal polychloroprene latex (45% solids | | | | | | | | |
| dispersion | | | | | | | | |
| SECTION II PHYSICAL DATA | | | | | | | | |
| IG POINT ("F) | IG POINT (*F) SPECIFIC GRAVITY (HIG = 1) 1.11 | | | | | | | |
| : PRESSURE (mm Hq.) | | PERCENT VOLATILE 1 VOLUME (%) See bulletin NL- | T | | | | | |
| C DENSITY (ALR = 1) | | EVAPORATION RATE | | | | | | |
| DLITY IN WATER | | рH | 11.5 | | | | | |
| MANCE AND ODOR Milky white | liquid. Sli | ght odor. | | | | | | |
| | | | | | | | | |
| Standard fire extinguishers. Use regular procedures Wal His and Explosion Hazards None Office of the control of the contro | | | | | | | | |
| SECTIO | N IV HEAL | TH HAZARD DATA | <i></i> | | | | | |
| CTS OF OVEREXPOSURE | | (OSHA); 10 ppm (Du Pont) | <u>-</u> | | | | | |
| | May cause burns. Causes irreversible damage to eyes. Do not get in | | | | | | | |
| eyes, on skin, or on clothing. Avoid breathing vapor. The amount of | | | | | | | | |
| chloroprene present is less than 0.5%. See section VII about air monitoring and ventilation. | | | | | | | | |
| In case of contact, immediately flush eves with plenty | | | | | | | | |
| <pre>water for at least 15 minutes; call a physician. For skin, flush</pre> | | | | | | | | |
| thoroughly with plenty of water. If product has penetrated clothing, | | | | | | | | |
| remove and launder. Dis | card shoes | if contaminated inside. | | | | | | |
| | | \ | _ | | | | | |

| • | | | 2EC | TION V | KEACTIVE | וו טר | CI A | | | |
|--|--|--|---|--|--|--|--|--|---|---|
| ſγ | UNSTABLE | | CON | OITIONS :O AVO | Noid | freez | ing tem | peratu | res. | |
| | STABLE | Х | | | | | | • | <u> </u> | |
| d other | Marrie is and or CONTAM PROSITION PROS | inat | -s or | dispers | ions th | at ma | Ā cosdn | late la | tex | |
| | MAY OCCUR | | | CONDITIONS TO | AVOID | | | , , , , , , , , , , , , , , , , , , , | | |
| LOOUS SERIZATION | WILL HOT OF | | | | | | | | | |
| | WILL NOT OR | | X | | | | | | | |
| | | ı | | | | | | | ··· | |
| | | | | | | | | | | |
| ······ | | SECT | ION ' | VI SPILL | OR LEAK | PRO | CEDURES | | | |
| O SE TAKEN | N CASE MATERI. | AL IS REL | EASED C | Be | familia | wit | h bulle | tins me | entione | l bel |
| e prote | ctive c | Lothi | ng a | vailable | | | | | | |
| | | | | rbent ma | | | | | | |
| DISPOSAL ME | | | | on on di | | n D: | lletin | VT110 | 7 "700:00 | |
| 0-6 | | | | | | נוג מע | TIECTU (| ATT-TIO. | T LOX: | CTCA |
| Sale H | landling | OF D | eopr | ene Late | YPS . | | | | | - |
| | SEC | TION | VII | SPECIAL | | ION H | NFORMAT | ION | | |
| | TION 'Specify 178 | ace | | | PROTECTI | W of | chloro | prene i | | |
| air-su | non spape | ace Just | mask | SPECIAL | PROTECTI | W of | chloro | prene i Systems | with p | osit |
| air-su | TION Spain ITS DOLLES LOCAL EXH | ace lust | mask " | SPECIAL | PROTECTI | V of | chloropy SPECIAL Closed Closed Vapo | prene i systems tilatio | with r | osit |
| air-su | MECHANICA monitor ecific f | ing | mask of wo | SPECIAL availab ork room | PROTECTI | W of | chloropy closed configuration vanishes carr | prene i systems tilations out ied out | with ron to car using Section | osit rry VII |
| ytical | monitor ecific fi | ing or c | mask of wo hlore | SPECIAL availab ork room oprene me | PROTECT Le if TI air sho | W of ould Read | chloropy special closed colored ventage vapo be carr bullet asses w | prene i systems tilations out ied out ied out ins in ith sid | with ron to can | osit rry VII |
| ytical | monitor ecific findervi | ing or cous | mask of wo hlore glove | SPECIAL availab ork room oprene mos es where sp | PROTECT Le if TI air sho onomer tre regree safet Lashes o | W of ould Read Y gl | chloropy special closed colored ventage be carriage bullet asses wills ar | e possi | s with rent of care using Section de shie | oosit Arry VII Ids |
| ytical nods sportect | MECHANICA monitor ecific fi impervi | ing or cous | mask of wo hloro glove ded ye w | SPECIAL availab ork room optene moss where sp ash" equ | PROTECT Le if TI air sho conomer safet lashes conomer a | W of puld Read rion gl | chloropy closed colored ventage be carrial bullet asses wills ar remerq | prene i systems tilations out ied out ins in ith sid e possi | s with rent of care using Section de shie ible. | oosit Arry VII lds |
| ytical ytical ods sp rotect veorecrive to | monitor ecific fi impervi ion reco | ing or cous ommen | mask of wo hloro ded ye w eve | SPECIAL availab ork room oprene mo es where sp ash" equ shirts o | PROTECT Le if TI air sho conomer safet lashes conomer a | W of puld Read rion gl | chloropy closed colored ventage be carrial bullet asses wills ar remerq | prene i systems tilations out ied out ins in ith sid e possi | s with rent of care using Section de shie ible. | oosit Arry VII lds |
| ytical ytical ods sp rotect veorecrive to | MECHANICA monitor ecific fi impervi | ing or cous ommen | mask of wo hloro ded ye w eve andl | SPECIAL availab ork room oprene mo es where sp ash" equ shirts o ing. | PROTECT Le if TI air sho conomer safet lashes conomer are recorded to the | W of puld Read right gland or spand/o appr | chlorous closed colored ventage be carrasses wills ar emergopriate | prene i systems tilations out ied out ins in ith sid e possi | s with rent of care using Section de shie ible. | oosit Arry VII lds |
| ytical ytical nods spectores protect corective es | monitor ecific f impervi ion reco | ing or cous ommen | of wohlord ded ye we andl | SPECIAL availab ork room oprene me es where sp ash" equ shirts o ing. | PROTECT Le if TI air sho onomer ''' ragio safet lashes of ipment a r other ECIAL PR | W of nuld Read rion gl | chloropy closed colored ventral ventra | prene in systems tilations out ins in ith side possion skin systems. | s with rent on to care using Section de shie ible. | vII lds ear |
| ytical ytical nods sportect reference co | monitor ecific fi impervi ion reco | ing or cous ommen | of work hloroded ye we andl | SPECIAL availab ork room oprene mo es where sp ash" equ shirts o ing. I VIII SP Refer to | PROTECT Le if TI air sho conomer safet lashes conomer are recorded to the r | W of ould Read or spand/o appr | chlorous closed colosed colose | prene i systems tilations out ied out ins in ith sid e possi ency sh skin to | s with rent to care using Section de shie ible. | oosit arry VII lds ear ion |
| ytical ytical nods sp rotect refrences Gloves Ld be u | monitor ecific f impervi ion reco purphent Hav and lone sed duri | ing or comments or sle | mask of work hloro glove ded ye w eve andl CTION storik | special availab ork room oprene mo es where sp ash" equ shirts o ing. VIII SP Refer to hable if | PROTECT Le if Tr air sho nomer refrequent interest contact | W of puld Read Ton gland/o appr | chloropy closed colosed colose | prene in systems tilations out ins in ith side possion to skin | s with rent on to call using Section de shie ible. nower notect: coprene should | oosit Try VII lds ear ion |
| ytical ytical nods sp rotect corective ed loves ld be u | monitor ecific f impervi ion reco purphent Hav and lone sed duri | ing or cous ommen re "e sle | of wo hlored ded ye we and large of storing erising under | SPECIAL availab ork room oprene me es where sp ash" equ shirts o ing. I VIII SP Refer to hable if | PROTECT Le if Tr air sho nomer refrequent interest contact | W of puld Read Ton gland/o appr | chloropy closed colosed colose | prene in systems tilations out ins in ith side possion to skin | s with rent on to call using Section de shie ible. nower notect: coprene should | oosit arry VII lds ear ion |
| ytical ytical nods sp rotect r | monitor ecific f impervi ion reco guipment Hav and long sed duri (A-68416 and sto | ing or comments of sleeping in the same of | mask of we hlore ded ye w eve andl CTION storing erist under restored | SPECIAL availab ork room oprene me es where sp ash" equ shirts o ing. I VIII SP Refer to hable if | PROTECT Le if TI air sho conomer ive regree safet lashes of ipment a r other ECIAL PR o bullet frozen. ions to | wof nuld Read ry gl or sp and/o appr ECAU in " | chloron closed colosed | prene in systems tilations out ins in ith side possion skin systems skin systems to the skin systems to th | s with rent of care should idal | oosit arry VII lds ear ion |

HYCAR LATEX

SECTION I.

B.F.Goodrich Chemical Company

Address
6100 Oak Tree Boulevard
Cleveland, Ohio 44131

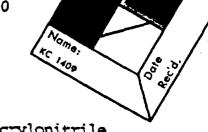
Chemical Name and Synonyms
Latex

Chemical Family
Copolymer

Emergency Telephone '216-524-0200

Trade Name

Formula
Butadiene/Acrylonitrile



SECTION II - HAZARDOUS INGREDIENTS

A. Vehicle

The latex is a uniform, anionic, colloidal dispersion of a high-molecular-weight copolymer in water.

B. Solvents

The latex contains no photochemically-reactive solvents — no volatile organic solvents of any kind.

C. Heavy Metals

We do not utilize lead, mercury, or any other heavy metal or heavy metal compound in the manufacture of our butadiene/acrylonitrile latexes. However, due to the ubiquitous nature of these materials, trace quantities (ppm or ppb) can probably be found by using modern analytical techniques.

D. Vapors

- 1. The latex is free of sulfur dioxides and oxides of nitrogen. Nor would these materials be expected to be produced during typical drying operations. Water is the primary volatile material given off during the drying cycle.
- 2. The latex contains very low levels of residual monomer and raw material impurities which may be volatilized during normal elevated temperature drying (250-325°F.). The amount and type of these materials depend upon the particular latex involved and the exact drying conditions. Our manufacturing techniques are aimed at minimizing the level of volatiles other than water in our latexes. In the case of our butadiene/acrylonitrile latexes, the primary residual monomer is acrylonitrile. Because of residual monomers, some care must be exercised during storage. Please refer to page 7 of the L-13 Bulletin.

SECTION III - PHYSICAL DATA

Boiling Point (°F.)
Water - 212°F.

Specific Gravity (H₂0 = 1) 0.98 - 1.02

Solubility in Water

Latex is water dilutable
polymer is insoluble

Percent Volatile by Weight (%)
Water: 44 - 60%

Appearance and Odor
Cream colored liquid.
Slight characteristic coor.

<u>рн</u> 10.4

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Extinguishing Media
For dry polymer - water

Special Fire Fighting Procedures
None required

Unusual Fire and Explosion Hazards

The latex contains very low levels of residual monomer. See page 7 of the L-13 Bulletin for comments on storage.

SECTION V - HEALTH HAZARD DATA

Threshold Limit Value
Not applicable.

Effects of Overexposure

None known. In over 30 years of manufacturing and selling butadiene/acrylonitrile latex, we have not had a problem with dermatitis or inhalation of vapors. Liquid contact with eyes may cause irritation.

Emergency and First Aid Procedures

- 1. DO NOT INGEST If ingested, contact physician.*
- 2. AVOID SKIN CONTACT Wash thoroughly with cold water any part of the body which comes in contact with latex.
- 3. AVOID EYE CONTACT Immediately flush eyes with water for at least 15 minutes. Contact physician.*

*NOTE: The pH of the latex should be given to the attending physician.

| <u>Stabilitu</u> Stable | | | Hazardous Decomposition Products None known |
|--|---|--|--|
| Unstab | | - | |
| <u>Hazardous</u> May Oc Will n | | | |
| | SEC | TION VII - SPILL O | R LEAK PROCEDURES |
| Dam up spille throug slippe Remove | , mop br d in enc. h coagula ry; use c saturate posal Met | losed area, ventilate. Ation by the addition of tare to avoid falls. End clothing and wash of the thorough the tare to avoid the tare tare to avoid the tare tare tare to avoid the tare tare tare tare tare tare tare tar | ial, and place into containers. If Polymer can be separated from water of alum. NOTE: Spilled latex is very Latex will leave a film on drying. ontacted skin areas with soap and water. federal, state, and local regulations. |
| | SECTIO | N VIII - SPECIAL P | ROTECTION INFORMATION |
| Respirato: None Protective | | tion (Specify Type) | <u>Ventilation</u> Exhaust to ventilate. Open, handle, and use under well-ventilated conditions. |
| Protect Other Prot None | | es suggested. | Eve Protection Safety glasses suggested. |
| | | SECTION IX - SPECI | AL PRECAUTIONS |

Precautions to be taken in Handling and Storing
Normal cleanliness. See attached L-13 Bulletin, Handling and Storing Latexes.

These data are based on tests believed to be reliable. They are given only for your information and no warranty, express or implied, is made as we cannot guarantee the results of operations not under our direct control. The information in this publication is not intended as permission or recommendation to practice a patented invention without permission of the patent owner.

MATERIAL SAFETY DATA SHEET

| | | I PRODUCT | LIDE | NTIFICATION | | | |
|----------------------------------|------------------------|-------------------|--|---------------------------------------|---|-----------|-------------|
| MANUFACTURER'S NAM | ME Tille Chemical | Company | REGULAR TELEPHONE NO. 412-331-42 | | | | 1-4200 |
| ADDRESS | rille Island H | | A 15 | | 3011011100011101 | 10. | |
| CHEMICAL NAME | transport to the state | | | | CAS NO. 6339 | 3-89-5 | |
| TRADE NAME | ARW-21 | | | | • | | , |
| CHEMICAL FAMILY | marone-Indene | | | FORMULA | , , , , , , , , , , , , , , , , , , , | | |
| SHIPPING NAME: DOT: | | or Petroleum | | IATA: | | | |
| | | II HAZARD | ous | INGREDIENTS | | | |
| MATERIAL OR | COMPONENT | CAS NO. UN NO. | × | | HAZARD | DATA | |
| CIMAR W-25 is c | onsidered non- | -hazardous und | ler c | urrent Depart | tment of Lal | or defini | tions. |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | - Arcino, | | |
| | | | | | - (xc 1100 | / / | >// |
| | · | III PHY | /SICA | AL DATA | | Opto de | |
| BOILING POINT, 760 mm | Hg Does not a | ıpply | Softening oc R&B 126 | | | | |
| SPECIFIC GRAVITY (H20 |)=1) 1.63 | | VAPOR PRESSURE (mm Hg at °C) Does not apply | | | | pply |
| VAPOR DENSITY (AIR= | Does not a | ipply. | SOLUBILITY IN H ₂ O,% BY WT. Negligible | | | | |
| % VOLATILES BY VOL. | Non-Volati | | EVAPORATION RATE (-1) Does not apply | | | | s not apply |
| APPEARANCE AND ODO | Amber Flak | es, CI odor | pH (AS IS) pH AT DILUTION Neutral | | | | |
| | | IV FIRE AND |) EXP | LOSION DATA | | | |
| FLASH POINT ITEST METHOD) 540 | | TO IGNITION _ | - ! | FLAMMABLE LIMIT IN AIR, % BY VOL.: | L | OWER: | |
| EXTINGUISHING | r, foam, water | fog, dry che | mica | 1 | | | |
| FIGHTING PROCEDURES None | | | | | (| | |

UNUSUAL FIRE AND EXPLOSION HAZARD

V HEALTH HAZARD INFORMATION

| HEALTH HAZARD DATA | HAZARD CLASSIFICATION | BASIS FOR CLASSIFICATION SOURCE | :E |
|--------------------|-----------------------|---|----|
| ROUTES OF EXPOSURE | 0 | Flaked product. | |
| SKIN CONTACT | o | No known effects unless allergy exists. | |
| SKIN ABSORPTION | · 0 | Material is a flaked solid | |
| EYE CONTACT | 0 | Dust particles if present can cause eye irritation. | |
| INGF-TION | 0 | Material is a flaked solid. Ingestion would be extremely extraordinary. | |
| | | | |

ACUTE OVEREXPOSURE

Avoid dust inhalation and skin contact. Allergic persons may be affected. Avoid eye contact.

CHRONIC OVEREXPOSURE

No known such effects. Allergic persons may react.

MERGENCY AND FIRST AID PROCEDURES

Flush with copious amounts of water.

Wash with soap and water. Use skin creams.

INHALATION

Avoid dust inhalation. For overexposure to vapor or dust remove person to fresh air. Seek medical assistance if irritation persists.

INGESTION

If irritation results, call a physician.

OTES TO PHYSICIAN

| . * | |
|---|-------------|
| VI REACTIVITY DATA | |
| CONDITIONS CONTRIBUTING TO INSTABILITY | |
| Extremely high temperatures. | |
| INCOMPATIBILITY (MATERIALS TO AVOID) | |
| None | |
| HAZARDOUS DECOMPOSITION PRODUCTS | · <u> </u> |
| CO, and CO ₂ when combustion is incomplete. | |
| CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION | |
| None | |
| none . | |
| · | |
| VII SPILL OR LEAK PROCEDURES | |
| STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED | |
| Sweep up. | |
| succe ap. | |
| | |
| | |
| NEUTRALIZING CHEMICALS None needed. | |
| STE DISPOSAL METHOD OF SPILL OR LEAK | |
| Normal disposal within EPA guidelines. | |
| normal cappools wastern and described | |
| | |
| | |
| VIII SPECIAL PROTECTION INFORMATION | |
| VENTILATION REQUIREMENTS | |
| Good air flow. | |
| Explosion proof motors. Avoid electrical arc in high dusting conditions. | |
| WANTE STEELINGS SEE IN HIRM ARBEITH CONSTITUTIONS. | • |
| SPECIFIC PERSONAL PROTECTIVE EQUIPMENT | |
| RESPIRATORY (SPECIFY IN DETAIL) | |
| Dust Mask | |
| EYE | |
| Goggles | |

Neoprene or Cotton
OTHER CLOTHING AND EQUIPMENT

GLOVES

Apron if necessary
Face shield if necessary

| IX SPE | CIAL PRECAUTIONS |
|---|--|
| ABELING INFORMATION AND WARNINGS | DATA FOR HAZARDS INFORMATION LABEL |
| (n-hazardous | Hazard Code 4 = Extreme 3 = High 2 = Moderate 1 = Stight 0 = Insignificant Health |
| | Special |
| THER HANDLING AND STORAGE REQUIREMENTS | |
| Store in a cool dry place | |
| , | |
| | |
| | |
| | X DISPOSAL |
| LASTE DISPOSAL METHOD | |
| Normal disposal within local and fe | ederal government guidelines. |
| | - |
| | in in the interest of the second of the seco |
| | |
| | |
| QUA" TOXICITY (eq. 96 hr TLM): Non-toxic | |
| XI GOVER | INMENT REGULATIONS |
| EFERENCE TO APPLICABLE OVERNMENT REGULATIONS | REGULATION HIGHLIGHTS |
| FEDERAL | |
| FEDA Bornlandon | |
| F&DA Regulations | |
| 175.300 175.105 | |
| 176.170 | |
| 177.1210 | |
| 177.2600 | |
| 176.180 | |
| STATE | ! |
| | |
| | |
| | |
| | |
| | |
| REHTC | |
| | • |
| (| |
| | |
| EPARED BY: Francis X. Preuhs | COMPANY: Neville Chemical Company |

Neville Island Pittsburgh, PA 15225

TEL. NO.: (412) 331-4200



NEVILLE CHEMICAL COMPANY

COUMARONE-INDENE REGINS
HYDROCARBON RESINS
HYDROXY RESINS
PETROLEUM RESINS
FLASTICIZERS
RUBBER RECLAIM OILS
RUBBER ANTIOXIDANTS
SOLVENTS
COLOR FAVING MATERIALS
CHLORINATED PARAFFINS
U. V. LIGHY ASSORGERS

Phitsburgh, PA. 15225

September 27, 1974

Mr. M. G. Magel
Director of Purchasing
The Brown-Bridge Mills, Inc.
P. G. Box 370
Troy, Ohio 45373

Dear Mr. Magel:

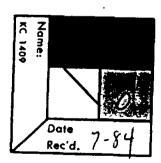
As requested in your letter of September 20, I am enclosing a chart which will give you the various FDA regulations in which our resins are cleared. As you probably know, the <u>CUMAR MH-2 1/2</u> and the CUMAR R-3 are coumarone-indene resins and are cleared under quite a number of regulations. In regard to the <u>September 1811</u>, that is cleared in only one regulation, 121.2520, adhesives.

If we can be of further assistance in regard to these products of ours, please do not hesitate to let us know.

Sincerely,

Charles N. Beck Sales Division

CNB:pm Enclosure



131.1050 13/. X

NEVEX 100 **NEVCHEM 100-120** R-1, R-6, LX-509 Coumarone Indene LX 782, LX-685 LX-1000, LX-1050 NEVILLAC HARD, SOFT, 10° UNICHLOR CB-4-34 **NEVCHEM 140**

| • | • | |
|------------|----------|---|
| Regulation | 121.1050 | Coumarone-Indene Resin |
| • | 121.2514 | Resinous and Polymeric Coatings |
| | 121.2520 | Adhesives |
| • | 121.2526 | Resinous and Polymer Coatings for Paper and Paperboard |
| • | 121.2550 | Closures with Sealing Gaskets for Food Containers |
| • | 121.2556 | Preservatives for Wood |
| | 121.2562 | Rubber Articles Intended for Repeated Use |
| • | 121.2571 | Components of Paper and Paperboard in Contact with Dry Food |
| • | | |



MMIERIAL JAFELL DALA SHEEL

(Approved by U.S. Department of Labor "Essentially Similar" to Form LS8-005-4)



| (ICAL NAME: BAK | EN 100% PHENOLIC-C | IL-SOLUBLE E | MONTHEAT REACTIV | RESINCK 2 | 132 | |
|---|--|-----------------------|---|------------------|--|--|
| SYNONYMS: - | | | HEMICAL FAMILY: Phenolic Resins | | | |
| FORMULA: - | | MOLECULAR WEI | 3HT: | | | |
| TRADE NAME AND SYNO | NYMS: BAKELITE 100% | Phenolic-Oil-Sol | uble—Non-Heat-Reactiv | ve Resin CK-24 | 32 | |
| | | PAYS(A) | DATA | | | |
| BOILING POINT, 760 mm. | Hg Not applicable | | R & B SOFTENING | POINT | 121-138°C. | |
| SPECIFIC GRAVITY (H ₂ O | = 1) 1.03-1.05 at 25°(| . . | VAPOR PRESSURE | AT 20°C. | Not applicable | |
| VAPOR DENSITY (air = 1) | Not applicable | • | SOLUBILITY IN WATER, % by wi | t | Insoluble | |
| PER CENT VOLATILES BY VOLUME | 0 | | EVAPORATION RA (Butyl Acetate=1) | ATE | Not applicable | |
| APPEARANCE AND ODOR | Coarse, crushed s | olid; slight pheno | lic odor. | | | |
| A Commence of the Commence of | 第二十五 | क्राठवहाः | र अवकासराङ | | en jednosti samoni samoni Samoni samoni samon | |
| | MATERIAL | | | % | TLV (Units) | |
| | Not applicable | | | | | |
| √ | ···· | | • | | | |
| | | | · · · · · · · · · · · · · · · · · · · | | | |
| | | • | | | | |
| | · 1000月第三人称单 | | 反线处理证证 | 我接受 | | |
| LASH POINT (test method) | Not applicable | AUTOIGNIT TEMPERAT | URE | 797°F. (AST | TM D 1929) | |
| LAMMABLE LIMITS IN A | IR, % by volume | LOWER | Not applicable | UPPER | Not applicable | |
| EXTINGUISHING MEDIA | Use carbon dioxide or dr Use foam (alcohol, polym | | | s | | |
| SPECIAL FIRE FIGHTING PROCEDURES | Not applicable | | | | | |
| INUSUAL FIRE AND EXPLOSION HAZAROS | Not applicable | | | Nome: RC 1409 | | |
| | Or. C. U. Dernehl, 212/551-478 Or. K. S. Lane, 212/551-478 C. P. Carpenter, Ph.O., 421/3 | 785) or | 212/551-2345; 304/744 (nights, weekends, and | -3487 | Mary Control of the C | |

While Union Carbide Corporation believes that the data contained herein are factual and the opinions expressed are those of qualified experts regarding the results of the tests conducted, the data are not to be taken as a warranty or representation for which Union Carbide Corporation assumes legal responsibility. They are offered solely for your consideration, investigation, and verification.

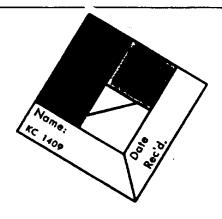
| | IV-III | FARRACARD DA | W | | | | | |
|--|--|---------------------------------|-------------------|------------------------|--|--|--|--|
| THRESHOLD LIMIT VALUE | Not yet established | | | | | | | |
| :FFE OF OVEREXPOSURE | Repeated contact may cause skin sensitization and rash. Dust may irritate nose and throat. | | | | | | | |
| MERGENCY AND FIRST ID PROCEDURES | Wash dust from skin with soap and water. | | | | | | | |
| | | RECOUNTYDATE | | | | | | |
| STABILITY UNSTABLE STABLE | CONDITIONS TO AVOID | None - | | | | | | |
| ICOMPATIBILITY naterials to avoid) | None | | | | | | | |
| AZARDOUS ECOMPOSITION PRODUCTS | Thermal decon | nposition or burning may produc | e carbon monoxide | and/or carbon dioxide. | | | | |
| AZARDOUS POLYMERIZATION May Occur Will not Occur | CONDITIONS TO AVOID | | | | | | | |
| | आ स्टा | COR UPACAROGE | UPES | | | | | |
| TER DE TAKEN MA. CRIAL IS RELEASED R SPILLED | Sweep up and | discard: | | | | | | |
| ASTE DISPOSAL METHOD | Bury or incines | rate. | | | | | | |
| W. | 53=3/4 | ESTIMATION AND | DEMANDLE | | | | | |
| SPIRATORY PROTECTION (specify type) | Dust respirator | in confined areas | | | | | | |
| INTILATION LOCAL EXHAUST | | | SPECIAL | | | | | |
| MECHANICAL (general) | Acceptable | | OTHER | | | | | |
| OTECTIVE GLOVES | Plastic | | EYE PROTECTION | Safety glasses | | | | |
| THER PROTECTIVE | Eye bath and s | afety shower | | | | | | |
| | VIII - S | HEBATER AND | NE : | | | | | |
| | BAKELITE | 100% PHENOLIC-OIL-SOLUE | BLE-NON-HEAT-R | EACTIVE RESIN CK-2432 | | | | |
| ECAUTIONARY LABELING | On the basis of the toxicological, physical, and chemical properties of BAKELITE 100% Phenolic—Oil-Soluble—Non-Heat-Reactive Resin CK-2432, precautionary labeling used on the containers is as follows: | | | | | | | |
| <u>C</u> | | FOR INDUSTRY | USE ONLY | | | | | |
| HER HANDLING AND CRAGE CONDITIONS | | | (| | | | | |

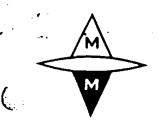


Moore & Munger Marketing, Inc.

Material Safety Data Sheet (Similar to Form OSHA-20)

| Section I | | | | | | | |
|--|--------------|----------------|---|--------------|----------------|------------|----------------|
| SELLER'S-MANUFACTURER'S NAME Moore & Munger Marketing, Inc. EMERGENCY TELEPHO (203) 259-786 | | | | | | | |
| ADDRESS (Number, Street, City, State and ZIP Code) | | | | | | | |
| 140 Sherman Street, Fairfield, C | CT (| 06430 | TRADE MAM | E AND SYNO | IVMC | | <u> </u> |
| Petroleum W | lax | | نوي فيني | <u> </u> | | (3) | |
| CHEMICAL FAMILY Petroleum Hydrocarbo | n | | FORMULA Complex mixtu | re of pe | troleum h | ydro | carbon |
| Section | on II | - Haza | rdous Ingredients | | | | |
| PAINTS, PRESERVATIVES & SOLVENTS | % | TLV (Units) | ALLOYS AND MET | ALLIC COAT | ING\$ | % | TLV (Units) |
| PIGMENTS None | | | BASE METAL | · | | | |
| CATALYST | | | ALLOYS | | | | |
| VEHICLE " | | | METALLIC COATINGS | | | | |
| SOLVENTS " | | | FILLER METAL PLUS COATING OR CORE | FLUX | | | |
| ADDITIVES - " | - | | OTHERS | | _ | | f , ,,, |
| OTHER " | | | | | | | |
| HAZARDOUS M | IXTUR | ES OF OTH | IER LIQUIDS, SOLIDS OR GA | SES | | * | TLV (Units) |
| None | | | | | _ | | |
| S | ectio | n III - I | Physical Data | | | | * |
| Melting Point (°F.) | 15 | 3 | SPECIFIC GRAVITY (H2O | 1) @ 15 | 0°F. | 6.5 | lbs/gal |
| VAPOR PRESSURE (mm Hg.) @ 68°F. | 0. | 01 | PERCENT, VOLATILE BY VOLUME (%) | negl | igib le | | |
| VAPOR DENSITY (AIR = 1) | 12 | ! | EVAPORATION RATE (= 1) | | · | 1 | |
| SOLUBILITY IN WATER negl | - | | PH | | | | |
| APPEARANCE AND ODOR White crystallin essentially odor | e wa less | х, | · • · · · · · · · · · · · · · · · · · · | | | <u>L</u> , | |
| Section IV - Fire and Explosion Hazard Data | | | | | | | |
| FLASH POINT (Method used) Cleveland Open Cup 480 °F. AUTO IGNITION FLAMMABLE LIMITS Lei | | | | | | -1 | Uel . |
| EXTINGUISHING MEDIA CO. X WATER X FOAM X DRY CHEMICAL X OTHER (spray or fog) | | | | | | | |
| SPECIAL FIRE FIGHTING PROCEDURES Cool exposed containers with water spray. Avoid breathing | | | | | | | |
| vapor or fumes. | | | | | | | |
| UNUSUAL FIRE AND EXPLOSION HAZARDS | | | | | | | - |
| | | <u>_</u> | | | | | |





Technical Bulletin

MOORE & MUNGER MARKETING, INC.

R 0855

(Formerly M&M 7355)

PARAFFIN WAX

TYPICAL TESTS

| Congealing Point (°F.) (ASTM D 938) | • | 153 |
|---|---|-----|
| Melting Point (°F.) (ASTM D 87) | | |
| Needle Penetration (mm/10) (ASTM D 1321) | <pre>@ 77°F</pre> | |
| Color, Saybolt | • | +26 |
| Oil Content (%) | · | 0 7 |
| Odor (0-4 Scale) (ASTM D 1833) | | 1.0 |
| Viscosity, Kinematic, 210°F (ASTM D 445) | '. (CS) | 6.8 |
| Viscosity, Saybolt, 210°F. (ASTM D 88) | (SUS) | 48 |

This product conforms to Title 21 CFR, Part 172, Subpart I, Section 172.886: Petroleum Wax. Federal Food, Drug & Cosmetic Act (Secs. 409, 701, 72 Stat. 1785-1788; 21 U.S.C. 348,371).

June 1978 Revised 12/78

140 SHERMAN STREET • FAIRFIELD, CONNECTICUT 06430 (203) 259-7861

| | | | | Section | n V | - Health | Hazard | d Data |
|---|---|--|--------------------|--|--------------------------|---|---|--|
| THRESHOL | LO LIMIT V | ALUE | nist or fu | meg in | air | OSHA | Regula | ation 29 CFR 1910.1000). |
| EFFECTS (| | | | MCS 111 | 444 | · (ODIBE | 1109020 | , |
| TOXICITY ACUTE LOCAL: | | | | | | RST AID | INHALATION: | |
| RATING | ACUTE S | YSTEMIC | D: | | | тв | EATMENT | SKIN CONTACT: If prolonged, wash with soap and warm water. |
| | CHRONI | CLOCAL | : | | | · | | EYE CONTACT: |
| | CHRONIC | C SYSTE | MIC: | | | | | INGESTION (ANTIDOTE): |
| | 0 None 1 Slight 2 Model 3 High - | — (a) No — Cause rate — Mi – May ca | s readily reversib | le changes v eversible an nanent injur | vhich of reve y after | disappear afte rsible change short exposu | er end of ex es; not sever ure to small | re enough to cause death or permanent injury. |
| | | | | Sect | ion | VI - Rea | ctivity C |)at a |
| STABILITY | | UNSTA | /BLE | | CO | NDITIONS TO | AVOID - | |
| | | STABL | E | х | † | | | : |
| INCOMPATA | ABILITY (M | aterials to | avoid) | | ٠. | | 1 - | 126.5 |
| HAZARDOU | S DECOMP | POSITION | PRODUCTS | | | | | |
| HAZARDOU | • | | MAY OCCUR | | | one i Sil | CONDITI | ONS-TO AVOID |
| POLYMERIZ | | | WILL NOT OCCUR X | | | ж | | 4 2 3.33 |
| | | | Se | ction VI | l — | Spill or | Leak Pr | rocedures - Ethiopia (1986) (1985) (1986) |
| STEPS TO B | E TAKEN I | N CASE | MATERIAL IS RE | LEASED OR | SPILI | ED Rec | over f | ree wax. Add absorbent (sand, |
| eart | h, saw | dust, | etc.) to | spill | area | . Keep | petro | leum products out of sewers and |
| wate | rcours | es. | | | | | | |
| WASTE DISE Assu | POSAL MET | HOO formi | ty with a | plicab | le d | lisposal | regul | Dispose absorbed materia at approved waste site. |
| | | | | | | | | Information |
| PROTECTIVE EQUIPMENT AND METHODS (Required with normal use): EYE PROTECTION: Safety glasses recommended. SKIN PROTECTION - MATERIAL RATING: NEOPRENE POLYVINYL ALCOHOL (E) EXCELLENT (P) POOR NATURAL RUBBER POLYETHYLENE (G) GOOD (NR) NOT RECOMMENDED BUTYL RUBBER POLYVINYL CHLORIDE (F) FAIR | | | | | | | | |
| MINIMAL RESPIRATORY PROTECTION: Normally not needed. | | | | | | | | |
| VENTILATION: LOCAL X GENERAL NONE NONE | | | | | | | | |
| Section IX - Special Precautions | | | | | | | | |
| PRECAUTION | PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Keep containers closed when not in use. Do not | | | | | | | |
| hand | handle or store near heat or flames. | | | | | | | |
| OTHER PREC | CAUTIONS | A | void breat | hing o | il m | ist or | fumes. | Wash skin thoroughly with soap |
| and warm water after handling. Use chemical resistant glove's and apron. | | | | | | | | |

U.S. DEPARTMENT OF LABOR Occupational Safety & Health Administration MATERIAL SAFETY DATA SHEET

| | | SEC | TION I | | | |
|--|---|----------------|---------------------------------|--|------------------|----------------|
| | ANUFACTURER'S NAME E. I. du Pont de Nemours & Plastic Products and Resins I | | | | | |
| ADDRESS (Number, Street, City, State, and ZIP Co Wilmington, DE 19898 | de) | | | CHEM TREC 1-80 | 0-424-93 | 100 |
| CHEMICAL NAME AND SYNONYMS | | | 187464 | E NAME AND SYNONYME | | |
| CHEMICAL STATE SOME STRUISON OF A/E IN Water | | | FORMULA | opolymer of x $(C_4H_6O_2) + y(C_4H_6O_2)$ | H ₄) | |
| | | CAS NO. | 24937-78-8 | | | |
| ' SECTION | 11 | HAZAR | DOUS INGRE | DIENTS | | |
| PAINTS, PRESERVATIVES, & SOLVENTS | * | TLV (Units) | ALLOYS AN | P METALLIC COATINGS | * | TLV (Units) |
| PIGMENTS | | | BASE METAL | | | |
| CATALYST | | | ALLOYS | | | |
| VEHICLE | | | METALLIC COATIN | GS | | |
| SOLVENTS | | | FILLER METAL PLUS COATING OR | CORE FLUX | | |
| ADDITIVES | | | OTHERS | | | |
| OTHERS V. K. Talle. | T.O. | 10 ppm | | | | |
| | <u> </u> | THER LIQ | UIDS, SOLIDS, OR G | ASES | * | TLV (Units) |
| | | | | | | |
| Odrie d. | | | | | | |
| $\overline{}$ | | | | | 1 | |
| | | | | | 1 | |
| | | | | | | |

| SECTION III PHYSICAL DATA | | | | |
|--|-------------------|------------------|-----------------------------------|----------|
| BOILING POINT (F.) | at 760 mm Hg | 212(100°C) | SPECIFIC GRAVITY (M20=1) | 1.08 |
| VAPOR PRESSURE Imm Hg.) | at 25°C (77°F) | 24 | PERCENT VOLATILE BY VOLUME (%) | 48 max. |
| VAPOR DENSITY TAIR=1) | | ~0.6 | EVAPORATION RATE (| <1 |
| SOLUBILITY IN WATER A/E is insoluble; the emula | sion is miscible. | | Freezing Point (°F) | 32 (0°C) |
| APPEARANCE AND ODOR | | Milk-white liqui | d with slightly sweet odor. | |

| SECTION IV FIRE AND E | EXPLOSION HAZARD D | ATA | |
|--|--------------------------------------|----------------------|------------|
| FLASH POINT (Method used) None (ASTM D 3278-73 Closed Cup) | FLAMMABLE LIMITS | Lel | Uel |
| EXTINGUISHING MEDIA | | | |
| SPECIAL FIRE FIGHTING PROCEDURES None | | | |
| UNUSUAL FIRE AND EXPLOSION HAZARDS Ignitable vapor may accum | nulate in the head space of contains | ers of "Elvace". Whe | n opening, |
| keep away from heat, spar | ks and open flames. | | |

NOTICE FROM DU PONT

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

| | SECTION V HEALTH HAZARD DATA |
|--|---|
| THRESHOLD LIMIT VALUE | Residual vinyl acetate monomer has TLV ^a of 10 ppm. |
| EFFECTS OF OVEREXPOSURE | Undiluted vapors may be irritating to eyes, nose and throat. |
| | |
| EMERGENCY AND FIRST AID PROC (1) Inhalation: Remo | CEDURES ove to fresh air if vapor is irritating. (2) Skin contact: Flush with water. (3) Eye contact: |
| | junctival irritation. Wash eyes thoroughly with water. (4) Ingestion: No effect at 5% or |
| 10% of diet in rats an | d dogs (Du Pont's Haskell Laboratory, unpublished data). |
| | |

| | • | SECTI | ON VI F | REACTIVITY DATA | | | | |
|----------------|------------------------|--------|------------------|---------------------|---|--|--|--|
| STABILITY | UNSTABLE | | CONDITION | S TO AVOID | | | | |
| | STABLE | х | X Do not freeze. | | | | | |
| INCOMPATABILIT | Y (Materials to avoid) | | | | | | | |
| HAZARDOUS DEC | OMPOSITION PRODUC | TS | | | · | | | |
| HAZARDOUS | MAY OC | CUR | | CONDITIONS TO AVOID | | | | |
| POLYMERIZATION | | TOCCUR | х | | | | | |

| | S | ECTION V | I SPILL | OR | LEAK | PROCE | DURES | |
|------------------------------|---------------|------------------|----------------------------|---------|------------|-------------|----------------|-------|
| STEPS TO BE TAKEN Collect | IN CASE MATER | ONE OF OTHER COL | OR SPILLED lection/contain | ument a | res. Use s | bsorbent if | onvenient. | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| WASTE DISPOSAL M | | cineration or bu | ying. These o | r other | methods : | should comp | ly with local, | state |

| | SECTION VIII SPECIAL I | PROTECTION INFORMATION | | | |
|----------------------------|--|-------------------------------|--|--|--|
| RESPIRATORY PROTE | CTION (Specify type) Not required under norm | nal use. | | | |
| VENTILATION | LOCAL EXHAUST | SPECIAL | | | |
| | MECHANICAL (General) Yes | ОТНЕЯ | | | |
| PROTECTIVE GLOVE | Suggest gloves if contact is prolonged. | EYE PROTECTION Safety glasses | | | |
| OTHER PROTECTIVE EQUIPMENT | | | | | |

| | SECTION | IX | SPECIAL | PRECAUTIONS | |
|--|--------------|--------------|-----------------|---------------------------------|--|
| PRECAUTIONS TO BE TAKEN IN HAND See bulletin E-27682 "User | LING AND STO | RING Pont | Elvace® Acetate | e/Ethylene Copolymes Emulsions* | |
| for general guidance. | | | | | |
| OTHER PRECAUTIONS | | | | | |
| | | | | | |
| | | | | | |

U.S. DEPARTMENT OF LABOR Occupational Safety & Health Administration MATERIAL SAFETY DATA SHEET

| | • | SECT | ION I | | | | |
|---|--------|----------------|------------------------|---------------------|--|-----------------|---------------------------------------|
| MANUFACTURER'S NAME E. L. du Pont | de N | | o., (lnc.) | | EMERGENCY TELEPHONE (302) 774-2 | | |
| Con State and 21P Cod | e) | | | | | | |
| 1007 Market Street, Williamston, Lawying | 1989 | 8 | | TRADE NA | AME AND ENGLES | | |
| CHEMICAL NAME AND SHE | | | | | | ء رد | - |
| CHEMICAL FAMILY Polyolefin | | | FORMULA | [(CH ₂ C | H ₂) _X (CH ₂ CHOCOCH ₃) _y | <u> </u> | |
| SECTION | 11 | HAZAR | DOUS IN | IGREDII | ENTS | - | |
| PAINTS, PRESERVATIVES, & SOLVENTS | 5 | TLV (Unite) | ALL | DYS AND M | ETALLIC COATINGS | * | TLV (Units) |
| PIGMENTS | | | BASE META | <u> </u> | | _ | |
| CATALYST | | | ALLOYS | | | | |
| VEHICLE | | | METALLIC FILLER MET | | | - | |
| SOLVENTS | _ | <u> </u> | PLUS COA | TÎNG OR C | | - | |
| ADDITIVES | | | Ulliene | | | > | ļ |
| OTHERS Vinyl Acetate | <0.: | | | | | //- | TLV |
| HAZARDOUS MIXTURES | | | UIDS, SOLIC | S. Nam | | / * | (Units) |
| Elvax® resins are not considered hazardou | | | | - KC 140 | | + | |
| When processed with solvents or in hot me | it cor | npounds, | | | - ` \ | | |
| precautions appropriate to those systems a | hould | be observe | l. | | | - | |
| | | | | | <u> </u> | | |
| SEC | TIO | N III 1 | HYSICA | | | | |
| BOILING POINT (F.) | No | t Applicable | · - | GRAVITY IH | 20=11 | _ | 0.93-0.97 |
| VAPOR PRESSURE (mm He.) | No | t Applicable | | E (%) | | | 0.3 |
| VAPOR DENSITY TAIR=1) | No | 1 Applicable | EVAPORAT | = 1) | | | Nil . |
| SOLUBILITY IN WATER | | Nil | | | | | · · · · · · · · · · · · · · · · · · · |
| APPEARANCE AND ODOR | Pelle | ted solid wi | th mild ester | odor. | | | |
| SECTION IV | FIDI | F AND | FXPLOSI | ON HA | ZARD DATA | | <u>.</u> |
| | II. | | FLAM | MABLE LIMIT | rs Let | | Uel |
| FLASH POINT (Method used) > 260°C (500°F) by Setaflash (Cl | osed | Cup). | | Not App | licable | | |
| EXTINGUISHING MEDIA Water, CO ₂ , foam, dry chemical | | | | | | | |
| SPECIAL FIRE FIGHTING PROCEDURES Nothing special | | | | | | | |
| | | | | | | | |
| UNUSUAL FIRE AND EXPLOSION HAZARDS Nothing special | | | | | | | |
| | | | | | | _ | |

NOTICE FROM DU PONT

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

| | | ECTION | V HEA | LTH HAZARD | DATA |
|---------------------------------|---|--|----------------|--------------------------|--|
| THRESHOLD LIMIT | VALUE | Not Applicabl | le – Nonres | pirable solid pellets. | |
| EFFECTS OF OVERE | XPOSURE | | | <u></u> | |
| | | | | | |
| EMERGENCY AND F | IRST AID PROCEDURES | ; | | | |
| | | | | | |
| | | | | | |
| | | 050710 | | | |
| | | SECTIO | | REACTIVITY D | DATA |
| STABILITY | UNSTABLE | | | | · · · · · · · · · · · · · · · · · · · |
| | STABLE | x | Temperatu | res >204°C (>400°F) |) |
| | (Materials to avoid) | | | | |
| HAZARDOUS DECU | APOSITION PRODUCTS Acetic acid. Carbo | on monoxide | is partial cor | • | or most organic materials. |
| HAZARDOUS POLYMERIZATION | MAY OCCU | R | | CONDITIONS TO | AVOID |
| - CEYMENIZATION | WILL NOT | CCUA | X | .] | |
| | | | | | |
| | | | | | |
| | | | | OR LEAK PR | OCEDURES |
| STEPS TO BE TAKEN | IN CASE MATERIAL IS | HELEASED O | R SPILLED | | |
| | Swe | ep up carefull | y to prevent | falls. Pellets are slipp | oing hazard. |
| • | · | | | | |
| VASTE DISPOSAL M | ETHOD | | | | |
| Inc | inerate or bury but dis | posal method | should be in | n compliance with loc | cal, state, and federal regulations. |
| | | | | | |
| | | | | | |
| | SECTION | VIII SP | ECIAL F | PROTECTION | INFORMATION |
| ESPIRATORY PROTE | CTION (Specify type) | Not require | d under nom | nal processing condit | ions. |
| VENTILATION | LOCAL EXHAUST | mended for h | ot melt proc | cessing. | SPECIAL Depending on vehicle type in solvent processing. |
| | MECHANICAL (Gen | | | | OTHER |
| PROTECTIVE GLOVE Recommended | S when working with h | ot meits. | | EYE PROTECTION | es for hot melt and solvent processing. |
| THER PROTECTIVE | | | e cotton shir | t for hot melt process | |
| | | | | | |
| | SE | CTION I | X SPE | CIAL PRECAU | TIONS |
| | | | ıG. | | |
| RECAUTIONS TO BE | TAKEN IN HANDLING re in cool, dry atmosp | here. Avoid t | emperatures | in excess of 38°C (1 | 00°F) to prevent pellet blocking. |
| RECAUTIONS TO BE Sto | re in cool, dry atmosp | here. Avoid t | emperatures | in excess of 38°C (1 | (00°F) to prevent pellet blocking. |

prepared in flammable solvents. All metal parts of the mixing and processing equipment must be grounded.



Technical Information

ADHESIVES & COATINGS

ADCOTE 37R610B

Description

Adcote 37R610 is a water-based dispersion based on high molecular weight ethylene interpolymers. The major use for this dispersion is in the paper, film and foil converting industry where it may function as a heat seal coating, pigment binder, laminating adhesive, or a primer.

Adcote 37R610 is suggested for applications where a low temperature heat seal and good hot tack properties are needed. This product exhibits good adhesion to polyethylene, PVC, polypropylene, aluminum foil and PVDC-coated glassine. It may be heat sealed to untreated polyethylene. 37R610 has exceptionally good adhesion to polyester film.

This product has good block resistance to packaging films and has excellent hot tack.

Typical Dispersion Properties

Solids: 40%

Viscosity: 1600 cps

pH: 10 Weight/Gallon: 8.4 lbs.

Compounding

Adcote 37R610 may be compounded in order to produce other functional coatings. The dispersion is stable in most alkaline systems but may coagulate under acidic conditions.

Stability

Adcote 37R610 exhibits good storage stability but mixing just prior to use is recommended in order to assure product uniformity. Freezing conditions should be avoided as freezing will coagulate the dispersion.

Application

Standard coating techniques, such as wire-wound rods and gravure, can be employed. However, as these dispersions are water-based, care should be taken to minimize the generation of foam. If a tendency to foam occurs, the addition of 0.05 - 0.2% (based on wet dispersing weight) of Foamkill 614¹ is recommended.

The dispersion may be reduced with water, preferably slightly basic, if a large amount is to be added. Drying should be effected by heat, giving rise to an approximate surface web temperature of 150 - 180°F. The coating will maintain a haze unless fused at a higher temperature.

Coat Weight

Coating weights should be in the area of 2.0 - 2.5 lb./ream for most applications, but the optimum weight will change with the specific end use.

Cleanup

Equipment cleanup may be accomplished by flushing with water. Deposits or spills are cleaned up by washing with warm, soapy water. Scrubbing with a brush may be necessary to loosen harder dried deposits. Warm toluene will aid in cleaning dried deposits.

¹Crucible Chemical Company, Donaldson Center, Greenville, SC 29605



Properties Of The Dried Coating

Block Resistance Good

Typical Bond Strength on Various Substrates

Coated at 3 lb./ream and sealed coating to coating at 275°F/20 psi/1 sec. dwell. (The coating on MDPE was sealed at 220°F).

Aluminum MOPE OPP Foil Mylar Coating to Coating 910 g/li 620 g/li 500 g/li 600 g/li Coating to 400 g/li 410 g/li 440 g/li 310 g/li Substrate

FDA Status

"Assuming that the water vehicle is evaporated during a coating operation, Adcote 37R610 is composed of ingredients which are permissible for use as an adhesive according to the provisions of the applicable FDA Regulation 175.105."

Please bear in mind that one of the provisions of this section requires that a "Functional Barrier" be interposed between the adhesive and the food to be packaged.



Material Safety Data Sheet

(Except for the Company name this is "Essentially Similar" to Form LSB-OOS-4)

| Section I Product Identification | | |
|---|-------------------------|-----------------------|
| Chemical Name: Polymer Dispersion or Emulsion | Product Name: | Adcote 37R610 |
| Principal Use: Proprietary Proprietary Proprietary | For Other Information T | elephone 312/621-5544 |
| Section II Hazardous Ingredients | | ·· ···· |
| Material: | | % TLV |
| Section III Physical Data | | |
| Boiling Point °F212 | Weight Per Gallon | 0 98 |
| Vapor Pressure (mm hg.)25 | % Non-Volatile By Weig | ht |
| Vapor Density (AIR=1) | Evaporation Rate (nBU | OAc = 1) Water |
| Solubility in Water Miscible | РН | |
| Physical Form Cream colored emulsion | OdorMile | <u> </u> |
| Section IV Fire and Explosion Hazard Data | | |
| Flash Point °F Flammable Method Used: N/A | Limits Lef | Uel |
| Extinguishing Media: | | |
| Water is recommended for combustible fiber containers | | |
| Special Fire Fighling Procedures: | | |
| Non e | | |
| Unusual Fire and Explosion Hazards: | | |
| None | | |

| Section V Health Hazard Data |
|---|
| Threshold Limit Value: |
| Unknown |
| Effects of Overexposure: |
| Product essentially non-irritating. |
| Emergency and First Aid Procedures: |
| Affected areas of the skin should be washed with warm water and soap. Flush eyes with copious amounts of water. Call a physician promptly. |
| Section VI Reactivity Data |
| Stability ⊠Stable □Unstable Conditions to Avoid: |
| Extreme heat or freezing conditions. Emulsion may coagulate under freezing conditions. |
| Incompatability: (Materials to Avoid) Acids or salt solutions may coagulate emulsion. |
| Hazardous Polymerization: ☐ May Occur ☑ Will Not Occur Conditions to Avoid: |
| |
| Hazardous Decomposition Products and Conditions: None known. |
| Section VII Spill or Leak Procedures |
| Steps to be taken in case material is released or spilled: |
| Dike to prevent run-off. Mop or absorb latex with inert material and place in suitable container. |
| Waste Disposal Method: |
| Dispose of in accordance with Federal, State and Local Regulations. |
| Section VIII Special Protection Information |
| Respiratory Protection: (Specify type) |
| None needed. |
| Ventilation: ☐ Local Exhaust: ☐ Mechanical: |
| None needed. |
| Other Protective Equipment: ☐Gloves: ☐ Other: |
| Chemical goggles |
| Section IX Special Precautions |
| Recommended Storage Conditions: |
| Protect product from overheating. Avoid freezing temperatures. Storage tanks should be lined or constructed of 316SS to prevent corrosion. |
| Other |
| No special precautions needed if product is handled in accordance with good manufacturing practices. |
| |

RBS/TJB/jr Effective: 3/9/81 Supersedes:

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| | | | LEAK PROCEDURE) | | |
| PS TO BE T | AKEN IN CASE MAT | ERIAL IS RELEASED OR SPILLED | | ······ | ······································ |
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| e uncoagu | nd contaminate | on or the coagulum should diking material shou | ld be landfilled | according to ou | rrent local, |
| ate and f | ederal regula | tions. Clear water ma | | | tment. |
| | | (VII - SPECIAL PROTI | ection information | | |
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| chanical | local exhaust | at point of contamina | nt (vapor, mist o | r dust) release | <u> </u> |
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| pervious | | Splashproof sa | fety goggles (ANS | I Z87.1, 1979) | |
| HER PROTE | CTIVE EQUIPMENT | | | | |
| wash fac | ility, emerge | ncy shower | | | |
| | | (VIII – STORAG | E AND LABELING | | |
| ORAGE TEM | PERATURE | INDOOR | HEATED | REFRIGERATED | DUTDOON |
| 140F | MIN. 34F | YES | NO | NO | YES |
| CAUTIONA | RY LABELING: | KEEP FROM FREEZING - | PRODUCT STABILITY | MAY BE AFFECT | D. |
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| ···· | | (IX - TOXICIT | Y INFORMATION | | |
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| itrols ar | e not adequat | ons must not be inhale e. Inhalation exposur 10 mg/M3 8-hour TWA li | es to dusts or mi | sts of polymer | should be |
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MATERIAL SAFETY

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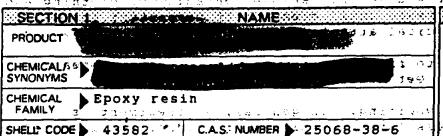
PAGE 1 OF 4

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SERTH CONTROLS



24 HOUR EMERGENCY ASSISTANCE - • ²713~473∸9461 800-424-9300 CHEMTREC SLIGHT 1 MODERATE, HIGH EXTREME In: 271 - 379

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| | | | | | : . | : | |
| Epichlorohydrin (ECH) content: 5 ppm, max., and typically | | | | | | • | |
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HEALTH INFORMATION STATE OF THE STATE OF THE

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Dust...can...cause mechanical irritation...of- eyes...and..respiratory...passages

NOTE:

It is very unlikely that normal work operations with EPON; Resin-1001F-could-produce-atmospheric-ECH-concentrationsapproaching the OSHA limit Nevertheless ... you should be awar that ECH has been reported to produce cancer in laboratory and mals and to produce mutagenic changes in bacteria and cultured human cells. An analysis of all the evidence to date (through) 1979) in an ongoing epidemiology study of ECH workers has been reported to show "weak" evidence that exposure to epichidrohydrin poses a cancer risk to humans.

ANSI Classification Paul

'The Oral LDso (rat) for EPON Resin 1001, which is similar in composition, is >30 g/kg.

SECTION IV

OCCUPATIONAL EXPOSURE LIMITS

ACGIH-TLV/TWA = 2 ppm (skin), STEL = 5 ppm; OSHA-PEL/TWA = 5 ppm (skin); Shell internal standard-TWA = 1 ppm, STEL = 3 ppm. For-nuisance-dust:--ACGIH-TLV/TWA: Respirable-dust-=-5 mg/m3-7--Total- - $dust = 10 mg/m^3$.

MATERIAL SAFETY DATA SHEET

| • | Shell | | 97003 (| 1-81) | | | | · · · · · · · · · · · · · · · · · · | SUS NUMBER | PAGE 2 OF 4 |
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| SECTION XI | | SPECIAL PRECAUT | | ¥(x.) |
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| toilet facili | ities. Launder c | ontaminated clo | thing before reuse. | |
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The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof.

V rassumes no responsibility for injury to vendee or third published procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in his use of the material.

BE SAFE

READ OUR PRODUCT
SAFETY INFORMATION
...AND
PASS IT ON

(PRODUCT LIABILITY LAW REQUIRES IT)

John Hepers

SHELL OIL COMPANY
PRODUCT SAFETY AND COMPLIANCE
OIL AND CHEMICAL PRODUCTS
P.O. BOX 4320
HOUSTON, TEXAS 77210

DATE PREPARED

April 23, 1982



Pavison Chemical Division W. R. Grace & Co. P.O. Box 2117 Baltimore, Maryland 21203 (301) 659-9000 MATERIAI SAFETY DATA SHEET



າsponsible for • material.

SYLOID (R) 244/SYLOID (R) 244FP

PRODUCT:

April 8, 1982

DATE:__

Emergency Contact:

B. L. Mobley, Supervisor Environmental Control Telephone No.: 301-997-8286 (Home) 301-659-9058 (Office)

The following information includes safety data required by OSHA. The recipient of this safety passing the safety information on so that it reaches the ultimate user who may come in con

TRADE NAME:

SYLOID 244/SYLOID 244FP

CHEMICAL NAME & FAMILY:

Synthetic Amorphous Silica

SYNONYMS:

Amorphous Silicon Dioxide, Silica Gel, Silicic Acid

CHEMICAL NOTATION OR STRUCTURE:

SiO2.xH2O

INGREDIENTS:

Amorphous Silica and absorbed moisture

SYLOID 244/SYLOID 244FP is a fine-size, synthetic amorphous silica, not to be confused with crystalline silica such as quartz, cristobalite or tridymite or with diatomaceous earth or other naturally occurring forms of amorphous silica that frequently contain crystalline forms.

CAS REGISTRY NO:

63231-67-4 (Silica Gel)

RTECS NO:

VV 7322000 (Synonyms and OSHA standards given are all in error).

RTECS should be considered as a source of literature references, not a source of authoritative information.

The information contained herein is based upon data considered true and accurate. However, Grace makes no warranties, express or implied, as to the accuracy or adequacy of the information contained herein or the results to be obtained from the use intered. This information is offered solely for the user is consideration, investigation and verification. Since the use and conditions of use of this information and the material described herein are not within the control of Grace. Grace assumes no responsibility for injury to the user or third persons. The material described herein is sold only pursuant to Grace is Terms and Conditions of Sale, including those limiting warranties and remedies contained therein, it is the responsibility of the user to determine whether any use of this data and information is in accordance with applicable federal, state or local faws and regulations.

HEALTH INFORMATION

Page 2 of 4

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PRECAUTIONS IN USE:

Users of SYLOID^(R) 244/SYLOID^(R) 244FP should avoid prolonged breathing of the dust or contact of dust with the skin. The drying action of this material can cause irritation of the mucous membranes of the nose and throat and irritation of the skin. If its use requires manual handling, wear long sleeves and close-weave cotton gloves with tight-fitting wristlets. If dusty conditions prevail, wear a properly fitted NIOSH-approved dust respirator. Wear goggles if dust causes eye discomfort.

Keep workplace dust levels below the OSHA Timeweighted Average (TWA) limit of 20 million particles per cubic foot. If particle count equipment is not available, "nuisance dust" limits of 10 mg/m 3 of air must be observed as a maximum. The Threshold Limit Value (TLV) of 6 mg/m 3 proposed by the American Conference of Governmental Industrial Hygienists (ACGIH) is recommended. The recommended limit for respirable dust is 3 mg/m 3 .

When pouring into a container of flammable liquid, ground both containers electrically to prevent a static electric spark. See SPECIAL INFORMATION for the National Paint and Coatings Association rating.

FIRST AID:

Wash from skin or eyes with water. If swallowed, drink plenty of water immediately. Material will pass body normally.

TOXICOLOGY

ANIMAL TOXICOLOGY

TESTS FOR DOT HAZARD CLASSIFICATION:

l-hour LC50 (rat) >2 mg/l
48-hour oral LD50 (rat) est. > 31,600 mg/Kg
48-hour dermal LD50 (rabbit) est. >2 g/Kg
Not considered an ocular irritant.

TESTS FOR FDA APPROVAL FOR USE IN FOODS:

LD50 (mice) 8,000 mg/Kg (limit of test) LD50 (rats) 4,500 mg/Kg (limit of test) 6 months' feeding tests (rats) at levels up to 10% of diet produced no effects.

HUMAN TOXICOLOGY:

No reliable data available. No known hazards in normal range.

Oral toxicity is considered very low.

Inhalation toxicity: Acute - Very low.

Chronic - Not determined, but not considered a serious hazard.

ENVIRONMENTAL DATA

Page 3 of 4

SYLOID (R) 244/SYLOID (R) 244FP is not known to have any adverse effect on the aquatic. environment. It is insoluble and nontoxic.

TYPICAL CHEMICAL & PHYSICAL INFORMATION

APPEARANCE:

Dry White Powder, Average Particle Size 3 microns

pH IN 5% SLURRY:

7.0

ODOR:

None

SPECIFIC GRAVITY:

2.1

BULK DENSITY:

 8.0 lb./ft.^3

SOLUBILITY IN WATER:

Insoluble

APPROXIMATE ANALYSIS:

 Sio^2 (Ignited Basis) - 99.4%

LOI @ 1750° F - 8.5%

Heavy Metals - Less than 30 ppm

Lead - Less than 10 ppm

Crystalline Silica - Not detectable

STABILITY:

Stable

REACTIVITY:

Reacts with HF

FIRE & EXPLOSION

DATA:

Nonflammable

REGULATORY STATUS

Page 4 of 4

Maximum permissible limit of dust in workplace: 20 mppcf. Weight-basis formula in 29 CFR 1910.1000 Table Z-3 (80 mg/m³ ÷ % SIO²) is not valid

OSHA- See ACGIH.

NIOSH— Animal inhalation tests conducted in 1976-1978. 18-month exposure at 15 mg/m^3 showed silica deposition in respiratory macrophages and lymph

nodes, minimum lung function impairment, and no silicosis.

EPA-

Not a regulated toxic substance or hazardous waste.

ACGIH
1981 TLV - 20 mppcf; proposed change to weight basis:

6 mg/m³ total dust

 3 mg/m^3 respirable dust

USDA- Cleared for certain uses in salt and seasonings, and in curing mixtures

for meat and poultry products.

SYLOID (R) silicas have been cleared for certain uses in foods as per

21 CFR 160.105, 160.185, and 172.480. For food or pharmaceutical use,

FP SYLOID silicas should be specified.

DOT- Not a regulated material.

HANDLING INFORMATION

STORAGE AND TRANSPORTATION:

Keep tightly sealed to protect quality.

DISPOSAL:

Landfill. Cover promptly to avoid blowing of dust.

SPILLAGE AND CLEANUP: Sweep or vacuum up or flush to sewer.

CONTAINERS:

Paperbags.

SPECIAL INFORMATION

Hazardous Materials Identification System (HMIS) for paint manufacturers as proposed by the National Paint and Coatings Association:

HEALTH HAZARD - 0

FLAMMABILITY - 0

REACTIVITY - 0

PERSONAL PROTECTION - *

AIS assigns choice of protective equipment to paint manufacturer, as the raw material supplier is unfamiliar with condition of use.

MALLICAL SAFETY DATA STEET (Approved by U.S. Department of Labor as "Essentially Similar" to Form OSHA-20)

3/5/79

PAGE 1 of 2

| | المستحد والمستحد | | | | | |
|---|--|---------------------------------------|-----------------------------------|--------|-----------|------------------------|
| I. PROD | OUCT IDENTIFICATION | N | | | | |
| CHEMICAL NAME RA | REGULAR TELEPHONE NO. 302-575-5000 EMERGENCY TELEPHONE NO. 302-995-3000 | | | | | |
| CHEMICAL Hydrocarbon | CAS NO. | | | | | |
| FORMULA NA | | MOL | ECULAF HT | NA NA | | |
| TRADE NAME Piccote AND SYNONYMS | Resins 75, LC, 10 | 0, 120 | | | | |
| II. HAZA | ARDOUS INGREDIENT | S | | | | |
| • , | MATERIAL | | | % | | TWA VALUES BY ACGIH |
| Note: As Hercules int Safety and Health Act (not be considered haza: | | | | | | |
| III. PHYS | SICAL DATA | | | | | - |
| BOILING POINT, 760 mm Hg | NA · | SOFTEN | ING PO | INT | 72 - 1219 | °C (161-267°F) |
| VAPOR PRESSURE @ | Unknown | SPECIFIC GRAVITY (H ₂ O=1) | | 1.04 | | |
| VAPOR DENSITY (AIR=1) | NA | | PERCENT VOLATILE BY VOLUME (%) | | Unknown | |
| SOLUBILITY IN WATER. % BY WEIGHT @ _ | Negligible - | EVAPOR | | | Less then | one _ |
| APPEARANCE AND ODOR: | Clear solid or flak | e; low od | or. | | | |
| IV. FIRE | AND EXPLOSION HA | AZARD D | ATA- | T.S. | | |
| FLASH POINT Greater the (TEST METHOD) (495°F) | COC | AUTOIGNI TEMPERAT | | | | |
| FLAMMABLE LIMITS IN AIR PERCENT BY VOLUME | LOWER NA | | <u>=</u> | UP | PER NA | Date Rec'd. |
| EXTINGUISHING MEDIA: Wate | er spray | | | | | Name: |
| SPECIAL FIRE-FIGHTING PROC | EDURES: None | | | | | KC 1409 |
| UNUSUAL FIRE AND EXPLOSIG | ON HAZARDS: Flammable | dust when | n fin | ely di | vided and | suspended in |
| NOTES: NA = NOT APPLICABLE | | | | | - | |

annot anticipate all conditions under which this information and our products, or the products of other manufacturers in combination with our products, may be used. We accept no responsibility for results obtained by the application of this information or the safety and suitability of our products, either alone or in combination with other products. Users are advised to make their own tests to determine the safety and suitability of each such product or product combination for their own purposes. Unless otherwise agreed in writing, we sell the products without warranty, and buyers and users assume all responsibility and liability for loss or damage arising from the handling and use of our products, whether used alone or in emphisions with other products. and use of our products, whether used alone or in combination with other products.

V. HEALTH HAZARD DATA

.HRESHOLD LIMIT VALUE: Not established. See note below.

EFFECTS OF OVEREXPOSURE: None known.

EMERGENCY AND FIRST AID PROCEDURES: None required.

VI. REACTIVITY DATA

STABILITY CONDITIONS TO AVOID: None
UNSTABLE STABLE T

INCOMPATIBILITY (MATERIALS TO AVOID):

HAZARDOUS DECOMPOSITION PRODUCTS:

None

None

HAZARDOUS POLYMERIZATION

MAY OCCUR CO

CONDITIONS TO AVOID: None

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: If material is not contaminated, scoop into a clean container for use. If contaminated, scoop into containers for disposal.

WASTE DISPOSAL METHOD: Landfill in accordance with local, state and Federal regulation

VIII. SPECIAL PROTECTION INFORMATION -

RESPIRATORY PROTECTION Nuisance dust respirator approved by NIOSH/MSHA (formerly MES; (SPECIFY TYPE)

| VENTILATION | LOCAL EXHAUST | Recommended | SPECIAL | |
|-------------|-------------------------|-------------|---------|---|
| | MECHANICAL (GENERAL) | • | OTHER | - |

PROTECTIVE GLOVES: _
OTHER PROTECTIVE EQUIPMENT: None

EYE PROTECTION: Safety glasses

IX. SPECIAL PRECAUTIONS

PRECAUTIONARY LABELING: CAUTION! Flammable dust when finely divided and suspended in sir. Keep away from sparks and open flame. Use with adequate ventilation.

NOTE FOR SECTION V - This material is not expected to cause physiologic impairment at low concentration. Nevertheless, until a specific TLV is adopted by the American Conference of Governmental Industrial Hygienists (ACGIH), Hercules Incorporated suggests that this material be treated as a muisance dust or particulate in accordance with the recommendations of ACGIH.

OTHER HANDLING AND STORAGE CONDITIONS: Flaked forms are prone to gradual oxidation. Control inventory. Use oldest material first.

MER 24440-1 9-78 IM 612019

Ford Approved OMB Sequer Service No. 44-81387 Approved Express Approximation

U.S. DEPARTMENT OF LABOR

May 1969-1 1971

July 30, 1972

PLACE STANDARDS ADMINISTRATION

Bureau of Labor Standards

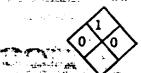
MATERIAL SAFETY DATA SHEET

| · | | | SECT | ON I Springfield, Mas DAY: (413) 788- | 691 | 1 |
|---------------------------|---------------------------------------|---------|----------------|---|---------|----------------|
| MONSANTO CO | MPANY | | | NIGHT: (413) 78 | 8-4 | 521 |
| ADDERSS (Number Stones C. | in seems and 210 C. | 144 | St I | ouis, Missouri 63166 | | - |
| HEMICAL NAME AND SYNC | NYMS | | | TRACE NAME AND SYNONYME | | |
| Aqueous Disper | | vinyi | ACETA | LOUMARY BASIASTELLITISION SOLUTION | | |
| 2 027 12000 | | | | | | |
| | SECTIO | N II | HAZA | RDOUS INGREDIENTS | | |
| PAINTS, PRESERV | Y VENTS | 45 | TLY (Units) | ALLOYS AND METALLIC COATINGS | 74 | TLY (Units) |
| PIGMENTS. | | | | BASE METAL | | |
| ATALYST | | // 🕇 | | ALLOYS. | | |
| MHICLE | | | | METALLIC COATINGS | | |
| OLVENTS NO. | 20/ | 1 | | FILLER METAL PLUS COATING OR CORE FLUX | | |
| DITIVES KC 140p | | 1-1 | | OTHERS | | |
| OTHERS | | 1 1 | · <u></u> | | | · |
| НА | ZARDOUS MIXTURE | S OF OT | HER LIG | UIDS, SOLIDS, OR GASES | 7. | TLV (Units) |
| Not hazardous b | v definition i | in 290 | CFR. | Section 1501. 2 which pertains | | |
| to this Data She | | | | • | | |
| | | | | | | |
| | · · · · · · · · · · · · · · · · · · · | | | | | |
| | | | | | · · · · | |
| | SESE | CTION | 1111 8 | PHYSICAL DATA | | |
| oiling point (f.) | Water | 212 | °F | SPECIFIC GRAVITY IM20=11 | 1 | 10 |
| APOR PRESSURE INTO HELI | Water | 17 | . 5 | PERCENT VOLATILE BY VOLUME 191 | 1 | 5 |
| APOR DENSITY TAIR=11 | Water | | 62 | EVAPORATION RATE | 1-7 | <1 |
| | | | | | + | |
| Dispersibility | | Com | prete i | • | 1 | |

| e de marco de la marco de la companya del companya del companya de la companya de | SECTION IN | FIRE AND EXP | LCSION HAZARD DATA | | |
|--|----------------|--------------|----------------------|-------|-----|
| FLASH POINT (Method used) | N/A | | FLAMMABLE LIMITS N/A | · Lal | Uel |
| TINGUISHING MEDIA | Water fog, | CO2 or foat | m | | |
| SPECIAL FIRE FIGHTING PROCI | iouses None | | | | |
| | | • | | • | |
| UNUSUAL FIRE AND EXPLOSION | N HAZAROS | | | | |

| | | | ¥ = 1 = 3 | राभभागप्र | 0017 |
|--------------------------------------|----------------------|--------------------------|---------------------------------------|-------------|--|
| THRESHOLD LIMIT V | | establis | hed | | |
| SECTS OF OVEREX | POSURE NOTICE | establis | hed | • | |
| | | | | | |
| EMERGENCY AND FI | AST AID PROCEDURES | normal b | vgienio | procedu | re such as removal of |
| soaked clo | | | | | water to avoid local |
| irritation. | | | · · · · · · · · · · · · · · · · · · · | | |
| | | | | | and the second s |
| | | SECTIO | on vi r | EACTIVITY | DATA |
| STABILITY | UNSTABLE | | CONDITION | S TO AVOID | |
| | STABLE I | XX | | | |
| INCOMPATABILITY (| Materials to avoid) | None | | | |
| HAZARDOUS DECOM | POSITION PRODUCTS | ent could | ، اداعات ا | CO2 2=4 (| CO as well as H2O. |
| MAZAROGUS | MAY OCCU | | T TOTAL | CONDITION | |
| POLYMERIZATION- | WILL NOT | | xx | | |
| | T WILL NOT | | 1222 | <u> </u> | |
| | | SCTICH V | 11: 57!LI | CR EDAR | |
| Apply saw | in case material i | s released o Ding Con | a spilled apound | to soak ur | o. For large spills use |
| | | _ | | | ance. Shovel into containers. |
| | | | | | |
| WASTE DISPOSAL HE | THOS Send to | dry land | fill. E | Tush to s | ewer or settling ponds if |
| local regul | ations perm | | | | |
| | | · <u>-</u> | | | |
| Market State and the second seconds. | | | | | tysis saara taleed ka saaraa ka saaraa ka k |
| | SECTION | וווע והכ | SPECIAL | PROTECTION | HINFORMATION |
| | CTION (Specify type) | Not no | eded | | |
| VENTILATION | LOCAL EXHAUST | nal room | | ation | SPECIAL |
| • | MECHANICAL (Ge | | II A STIFT | | OTHER |
| PROTECTIVE GLOVE | Rubberi | zed glov | es | EYE PROTECT | Goggles Goggles |
| OTHER PROTECTIVE | EQUIPMENT Rubb | er shoe | s or bo | ots | |
| eti. | | . : ' | | | |
| | | SECTION | | CIAL FIECH | IUT:CHS |
| Avoid free: | zing. Do not | g and stori t store i | n close | d drums | or vessels near high |
| temperatur | | | - | | |
| THER PRECAUTION | 5 | | | | |

Witco MATERIAL SAFETY DATA SHEET



PRODUCT SECTION 1 WITCO MANUFACTURING DIVISION OR SUBSIDIARY EMERGENCY TELEPHONE MANUFACTURER . Humko Chemical
ADDRESS INUMBER, STREET, CITY, STATE, ZIP CODE 320-5800 ر 901 P. O. Box 125, Memphis, TN 38101 CHEM TREC 1-(800) 424-9300 CHEMICAL NAME OR FAMILY C22H43NO Erucamide (Fatty Amide) SECTION II - CHEMICAL AND PHYSICAL PROPERTIES VAPOR PRESSURE (mmHg at 20°C) SPECIFIC GRAVITY ' TH,O = 1) above VAPOR DENSITY (AIR = 1) بحراكمك الأناء BOILING PT. _____ *C (650 F) Negligible Negligible 0.88 STRONG ACID | STABLE _℃L "F) SOLUBILITY IN H.O AT _____ C PERCENT VOLATILE (BY WT. %) approx. range 78°-85°d Nil Negligible STRONG BASE UNSTABLE PHYSICAL FORM AND ODOR A mild odor - typically EVAPORATION RATE I __ Negligible fatty. Light tan powder or pellets. HAZARDOUS DECOMPOSITION PRODUCTS CO, and oxides of nitrogen from burning. INCOMPATIBILITY (KEEP AWAY FROM) CONTRACTOR OF THE PROPERTY OF NONE Committee and the manner of the same and the same and IST ALL TOXIC AND HAZARDOUS INGREDIENTS Contains no component listed in 29CFR 1910.1000 Tables Z-1, Z-2, or Z-3 nor anything in other pertinent sections of 29 CFR 1910.1001 thru 1910.1029. The section of the section of the section of and the second state of the second SECTION III - FIRE AND EXPLOSION DATA Not available FLASH POINT (METHOD USED) Above 500 - OC FLAMMABLE LIMITS % LOWER EXTINGUISHING AGENTS DRYCHEMICAL CO. ☐ WATERSPRAY SPECIAL FIRE FIGHTING PROCEDURES DO NOT USE STREAM OF WATER AS FATTY MATERIAL WILL FLOAT. UNUSUAL FIRE AND EXPLOSION HAZARDS ONLY USUAL HAZARD FROM ORGANIC DUST. SECTION IV - HEALTH HAZARD DATA PERMISSIBLE CONCENTRATIONS (AIR) EFFECTS OF OVEREXPOSURE NOT AVAILABLE NORMAL IRRITATION FROM DUST PARTICLES TOXICOLOGICAL PROPERTIES NO KNOWN EFFECTS FROM OVEREXPOSURE. ACUTE ORAL LD-50 IN EXCESS OF 10 GRAMS PER KILOGRAM OF BODY WEIGHT. (NON-TOXIC ORALLY BY FHSLA GUIDELINES) MERGENCY FIRST AID PROCEDURES FLUSH EYES WITH COPIOUS AMOUNTS OF WATER AND CONSULT A PHYSICIAN IMMEDIATELY. SKIN CONTACT WASH SKIN WITH SOAP AND WATER IMMEDIATELY AND SEE A PHYSICAN IF IRRITATION INHALATION OCCURS. IF SWALLOWED

Witco MATERIAL SAFETY DATA SHEET

Page 2 of 2

| SECTION V COSCIAL PROTECTION INFORMATION | PRODUCT Kemamide E |
|--|--|
| SECTION V - SPECIAL PROTECTION INFORMATION | The state of the s |
| VENTILATION TYPE REQUIRED ILOCAL, MECHANICAL, SPECIALI | and the state of the |
| LOCAL EXHAUST RESPIRATORY PROTECTION (SPECIFY TYPE) | The state of the s |
| NONE NECESSARY | The state of the s |
| PROTECTIVE GLOVES | EYE PROTECTION |
| RECOMMENDED | RECOMMENDED |
| OTHER PROTECTIVE EQUIPMENT | |
| SECTION VI - HANDLING OF SPILLS OR LEAKS | The state of the s |
| PROCEDURES FOR CLEAN-UP | |
| MAY BE PICKED UP WITH ANY SUITABLE SCOON NO HAZARD IN SOLID FORM | OP |
| WASTE DISPOSAL DISPOSE OF WASTE MATERIAL IN ACCORDANG REGULATION. | CE WITH ANY APPLICABLE LOCAL, STATE AND FEDERAL |
| SECTION VII - SPECIAL PRECAUTIONS | TOWN OF THE DESIGNATION OF THE PROPERTY OF THE |
| RECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE | |
| KEEP DRUMS CLOSED. STORE IN DRY PLACE, PROTECT FROM EXCESS | SIVE HEAT. |
| SECTION VIII - TRANSPORTATION DATA | The time of the transferred president and the latest services are the latest services and the latest services and the latest services are the latest s |
| | |
| U.S. DEPARTMENT OF TRANSPO | RTATION HAZARD CLASS. |
| | RTATION HAZARD CLASS. |
| J.S. D.O.T. PROPER SHIPPING NAME | RTATION HAZARO CLASS. |
| I.S. D.O.T. PROPER SHIPPING NAME ABEL REQUIRED | RTATION HAZARO CLASS |
| S. D.O.T. PROPER SHIPPING NAME ABEL REQUIRED RANSPORTATION EMERGENCY INFORMATION CHEM TREC 1-(800) 424-9300 | |
| ABEL REQUIRED RANSPORTATION EMERGENCY INFORMATION CHEM TREC I-(800) 424-9300 | |
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| ABEL REQUIRED RANSPORTATION EMERGENCY INFORMATION CHEM TREC 1-(800) 424-9300 ECTION IX - COMMENTS C.A.S. REGISTRY NUMBER: 112-84-5 | |
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| ABEL REQUIRED RANSPORTATION EMERGENCY INFORMATION CHEM TREC 1-(800) 424-9300 ECTION IX - COMMENTS C.A.S. REGISTRY NUMBER: 112-84-5 | TITLE Regulatory Compliance |
| ABEL REQUIRED RANSPORTATION EMERGENCY INFORMATION CHEM TREC 1-(800) 424-9300 ECTION IX - COMMENTS C.A.S. REGISTRY NUMBER: 112-84-5 | |

The information contained herein is based on data considered accurate. However, no warranty, expressed or implied, is given regarding the accuracy of these data or the results to be obtained from the use thereof.

U.S. DEPARTMENT OF LADOR

Form Approved OMB No. 44-R1387 A oval Expires:

July 30, 1972

Form No. 0SHA-20 May, 1971

MATERIAL SAFETY DATA SHEET

| 医艾克氏氏征 医水子 医甲状腺 医克里氏 计多数 医电子性 医克拉克氏病 医电子 医多种 | 文·欧州中央中央中央中央中央 | 14.10では、19.1 | | Mary National Color | |
|---|--------------------------------|--|-------------|-----------------------|--|
| crorion i Springfield, i | | | | | |
| MANUFACTURER'S NAME MONSANTO COMPANY | MONSANTO COMPANY Nights: (413) | | | | |
| Agoness (Number, Street, City, Stere, and ZIP C. 800 North Lindbergh Bouleva | rd. St. Lo | uis. Missouri 63166 | | | |
| Methyl Methacrylate Copol | | كالشاك وبالبائ كالتباه وبروي والناه ليستني بيون والمتعاور الفران والمتعارب | | | |
| Vinyl Acetate/Methyl | <u> </u> | FORMULA | | - | |
| Methacrylate Copolymer I | Resin | | | | |
| SECTIO | 81 H HAZAD | DOUS INGCEDIENTS | | | |
| PAINTS, PRESERVAT | TLV (Units) | ALLOYS AND METALLIC COATINGS | 8 | TLY (Unite) | |
| PIGMENTS | (Onlys) | BASE METAL | 1- | | |
| CATALYST | | ALLOYS | | 5 • T | |
| VEHICLE | // | METALLIC COATINGS | 1 (agrico | Sign of Statement | |
| SOLVENTS AC 1409 | 1 | FILLER METAL PLUS COATING OR CORE FLUX | | | |
| ADDITIVES OF CO. | | OTHERS | | | |
| OTHERS | | | i | er er e em | |
| HAZARDO, MIXTURE | S OF OTHER LIQ | UIDS, SOLIDS, OR GASES | . 5 | TLY (Units) | |
| Not hazardous by definit | | | h | 1, 12, 51 | |
| pertains to this Data Sho | | | | | |
| | | | | | |
| | | | • | | |
| SECT | ION III | PHYSICAL DATA | wear group | | |
| BOILING POINT CF. | 212 | SPECIFIC GRAVITY INZO=11 | 1 | .08 | |
| VAPOR PRESSURE IMM Heil @ 20°C. | 17.5 | PERCENT VOLATILE Wt. % | 5 | 4 | |
| VAPOR DENSITY (AIR=1) | 0.62 | EVAPORATION RATE | | 1 | |
| ROCKHOOK IN WATER Dispersibility | Ycomplete | | | | |
| APPEARANCE AND ODOR White visc | ous liqui | d; slight acrid odor. | are en Or | ogetaens. | |
| SECTION IV | FIRE AND | EXPLOSION HAZARD DATA | | | |
| FLASH POINT (Method used) N/A | | FLAMMABLE LIMITS N/A Lot | - | Uel | |
| | CO ₂ or fo | | | | |
| SPECIAL FIRE FIGHTING PROCEDURES NOT | | | | | |
| | | The second secon | | | |
| UNUSUAL FIRE AND EXPLOSION HAZARDS N | /A | | | | |
| <u> </u> | | • | | , | |

SECTION V HEALTH HAZARD DATA

| THRESHOLD LIMIT V | None | establ | ished | Comment of the second | |
|---------------------|---------------------|---------------|--|---|--|
| EFFECTS OF OVEREXP | osune None | expect | ed | | |
| | | | | # : F > y. | |
| EMERGENCY AND FIR | ST AID PROCEDURES | Use no | ormal h | ygienic pro | ocedures, such as |
| removal of | soaked clo | thing | and sh | owers. Flu | ush eyes with water |
| to avoid l | ocal irrita | tion. | a terresidente la granda de la deservación de la decembra de la decembra de la decembra de la decembra de la d | man parties to the second of the second | |
| | S | ECTIO | IV N | REACTIVIT | Y. DATA |
| TABILITY | UNSTABLE | | COMOTTION | S 10 AVOID | |
| | STABLE | x | | | |
| NCOMPATABILITY (M | sterials to avoid) | Non | । अस्ति स्ट ाल | e eg tidografica | eren er julig s <mark>imbe</mark> ren i still et i still bligter. |
| AZARDOUS DECOMP | OSITION PRODUCTS | co, | H ₂ O, | CO - 1 - 1 - 2 - 2 | para ser i comprese de la comprese del comprese de la comprese de la comprese del comprese de la comprese del comprese de la comprese de la comprese de la comprese del comprese de la comprese della comprese della comprese de la comprese della comprese della comprese della comprese della comprese della comprese della com |
| HAZARDOUS | MAY OCCUR | | | CONDITIONS TO | |
| POLYMERIZATION | WILL NOT OC | CUR . | x | | A STATE OF THE PROPERTY OF THE |
| ş* | | | | | |
| STEPS TO BE TAKEN I | N CASE MATERIAL IS | RELEASED (| CA SPILLED: | | PROCEDURES |
| | | | | <u> </u> | balance. Shovel into |
| containers. | | | | | PAZARDDIS MIKT VEST |
| | | | | | to sewer or settling |
| | cal regula | | | | Carlos Baracos and Company of the Co |
| ponus II I | Car requia | CIONS | DETWILL | <u>•</u> | |
| | SECTION | ŢIŢ. | SPECI | | ION INFORMATION |
| RESPIRATORY PROTEC | TION (Specify type) | Not | needed | | N. 1 |
| VENTILATION | LOCAL EXHAUST | rmal r | oom ve | ntilation | SPECIAL TOTAL TOTA |
| • | MECHANICAL (Gen | emU | e de la compania | | OTHER |
| MOTECTIVE GLOVES | Rubberize | d glov | es" | EYE PROTECTION | Goggles |
| OTHER PROTECTIVE E | | | oes or | boots | |
| | SEC | TION | IX S | PECIAL PRE | CAUTIONS |
| RECAUTIONS TO BE | AREN IN HANDLING | AND STOR | AVO | id freezin | g. Do not store in |
| closed dru | ms or vess | els ne | | | ure sources. |
| | | - | | | |

While the information and recommendations set forth herein are believed to be accurate as of the date hereof, MONSANTO COMPANY MAKES NO WARRANTY WITH RESPECT THERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

Chemical Manufacturing Division

P.O. Box 375, Efficacient Lance For Lawn, NJ 07410

MATERIAL SAFETY DATA SHEET (Adapted from USDL Form LSD-005-4)

(201) 796-7100

SECTION I. IDENTIFICATION OF PRODUCT

CHEMICAL NAME

FORMULA

1,1,1-Trichloroethane

CH₃CCl₃

SYNONYM OR CROSS REFERENCE

Methylchloroform Chlorothene

SECTION II. HAZARDOUS INGREDIENTS

MATERIAL

1,1,1-Trichloroethane

NATURE OF HAZARD

Irritant

SECTION III. PHYSICAL DATA

BOILING POINT 74

74°C

MELTING POINT

-380C

VAPOR PRESSURE(mm Hg)

144

SPECIFIC GRAVITY 1.34

OR DENSITY (AIR 1)

4.55

PERCENT VOLATILE BY VOLUME (%) 100%

WATER SOLUBILITY

insoluble

EVAPORATION RATE ether

n greater than 1

APPEARANCE Clear, water-white liquid

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (method used)

NA

FLAMMABLE LIMITS

15 7.5

FIRE EXTINGUISHING MEDIA

NA

SPECIAL FIRE-FIGHTING PROCEDURES

Wear self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARD

When heated to decomposition, emits toxic fumes of chlorine.

SECTION V. HEALTH HAZARD

THRESHOLD LIMIT VALUE

350 ppm

HIT ALTH HAZARDS

Irritating to eyes, mucous membranes and in high concentrations

FIRST AID PROCEDURES If inhaled, remove to fresh air. Administer oxygen or artificial respiration as necessary. Call a physician. In case of contact, flush eyes with plenty of water for at least 15 minutes. Call a physician.

See Disclaimer on reverse side.

| , | | SECTION VI | I. RE | EACTIVITY DATA | |
|---------------------------|---|---|--------|---|-------------|
| STABILITY | | UNSTABLE | | CONDITIONS TO AVOID | |
| | | : STABLE | · i | | |
| INCOMPATAB | ILITY (materials to avo | _l L | X | | |
| HAZABDOUS D | ECOMPOSITION PROD | NICTS | | | |
| When he | eated to decom | position, emit | s t | oxic fumes of chlorine. | • • • • |
| HAZARDOUS POLYMERIZATI | ON | MAY OCCUP | | CONDITIONS TO AVOID | |
| | | WILL NOT OCCUR | x | | |
| | SEC | TION VII. SPILL A | ND [| DISPOSAL PROCEDURES | |
| | | alis Released OR SP iculite and pl | | in a suitable container. | |
| WASTE DISPOS | | | | | |
| | | LY WITH ALL LOCAL, ST ENSED DISPOSAL AGE | | AND FEDERAL REGULATIONS | |
| | | SECTION VIII. PRO | OTE | CTION INFORMATION | |
| RESPIRATORY | PROTECTION (specify t | ype) | | | |
| rac | nirator with | organic vapor (| can | ister | |
| NTILATION | LOCAL | | | SPECIAL | |
| MILATION | Accepta | | | | |
| | MECHANICAL (general Accepta | | | OTHER | |
| PROTECTIVE G | LOVES | | | EYE PROTECTION | |
| Rubber | | | ļ | Safety glasses | |
| OTHER PROTEC | CTIVE EQUIPMENT | | | | |
| | | | | | |
| <u> </u> | | | | | |
| | ···- | ON IX. HANDLING | ANE | STORAGE PRECAUTIONS | |
| STORAGE AND | HANDLING | | | | |
| | | | | | |
| <u></u> | ·· | | | | |
| | SI | ECTION X. MISCEI | LLA | NEOUS INFORMATION | |
| | | | | | |
| | | | | | |
| | URNISHED BY L. Pillori | | | Manager of Quality Assurance | |
| WARRANTY OF | MERCHANTABILITY OF y resulting from its use. U | I ANY OTHER WARRANT | ne bes | st information currently available to us. However, WE MAKE (PRESS OR IMPLIED, with respect to such information, an restigations to determine the suitability of the information for | id we |
| REV NO | 1 DATE | January 25 | , 1 | 982 | Form No. 1 |

Form No. 157 11.79

MATERIAL SAFETY DATA SHEET PAGE: 3
DOW CHEMICAL U.S.A. MIDLAND MICHIGAN 48640 ENERGENCY PHONE: 517-636-4400

EFFECTIVE DATE: 23 SEP 81
PRODUCT (CONT'D): CHLOROTHENE (R) SM SOLVENT

PRODUCT CODE: 16896 NSD: 1111

SECTION 6

FIRST AID-- NOTE TO PHYSICIAN (CONTINUED)

NOTE TO PHYSICIAN: (CONTINUED)

OXYGEN IF AVAILABLE. BRONCHODILATORS, EXPECTORANTS, AND ANTITUSSIVES MAY BE OF HELP.

ORAL: LOW IN TOXICITY. MAY CAUSE REACTION SIMILAR TO PETROLEUM OR PETROLEUM-LIKE SOLVENT. DANGER OF CHEMICAL PNEUMONIA MUST BE WEIGHED AGAINST TOXICITY WHEN CONSIDERING EMPTYING THE STOMACH. IF LAVAGE IS PERFORMED, SUGGEST ENDOTRACHEAL AND/OR ESOPHAGOSCOPIC CONTROL.

SYSTEMIC: MAY INCREASE MYDCARDIAL IRRITABILITY. AUDID EPTMEFHRINE OR SIMILAR ACTING DRUGS IF AT ALL POSSIBLE. CONSULT STANDARD LITERATURE. NO SPECIFIC ANTIDOTE. TREATMENT BASED ON THE SOUND JUDGMENT OF THE PHYSICIAN AND THE INDIVIDUAL REACTIONS OF THE PATIENT.

SECTION 7

SPECIAL HANDLING INFORMATION

VENTILATION: RECOMMEND CONTROL OF VAPORS TO SUGGESTED GUIDE.

RESPIRATORY PROTECTION: NONE NORMALLY NEEDED. APPROVED RESPIRATORY PROTECTION REQUIRED IN ABSENCE OF PROPER ENVIRONMENTAL CONTROL. FOR EMERGENCIES, A SELF-CONTAINED BREATHING APPARATUS OR A FULL-FACE RESPIRATOR IS RECOMMENDED. CARTRIDGE RESPIRATORS ARE NOT RECOMMENDED EXCEPT FOR EVACUATION.

PROTECTIVE CLOTHING: NO SPECIAL PROTECTIVE CLOTHING NEEDED.

EYE PROTECTION: SAFETY GLASSES WITHOUT SIDE SHIELDS.

SECTION 8 SPECIAL PRECAUTIONS AND ADDITIONAL INFORMATION

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: HANDLE NITH REASONABLE CARE. AVOID BREATHING VAPORS. STORE IN A COOL DRY PLACE. VAPORS OF THIS PRODUCT ARE HEAVIER THAN AIR AND WILL COLLECT IN LOW AREAS SUCH AS PITS, DEGREASERS, STORAGE TANKS, AND OTHER CONFINED AREAS. DO NOT ENTER THESE AREAS WHERE VAPORS OF THIS PRODUCT ARE SUSPECTED UNLESS SPECIAL BREATHING APPARATUS IS USED AND AN OBSERVER IS PRESENT FOR ASSISTANCE.

1,1,1-TRICHLOROETHANE PRODUCTS SHOULD NOT BE PACKAGED IN ALUMINUM AEROSOL CANS OR WITH FINELY DIVIDED ALUMINUM OR ITS ALLOYS IN AN AEROSOL CAN.

ALUMINUM IS NOT AN ACCEPTABLE MATERIAL OF CONSTRUCTION FOR PUMPS, MIXERS, FITTINGS, STORAGE TANKS FOR 1,1,1-TRICHLOROETHANE PRODUCTS OR FORMULATIONS.

(CONTINUED ON PAGE 4)

(R) INDICATES A TRADEMARK OF THE DOW CHEMICAL COMPANY

MATERIAL SAFETY DATA: SHEET PAGE: 1 DOW CHENICAL U.S.A. MIDLAND MICHIGAN 48640 EMERGENCY PRORE: 517-636-4400

EFFECTIVE DATE: 23 SEP 81 FRODUCT CODE: 16896

PRODUCT NAME: CHLOROTHENE (R) SM SOLVENT MSD; 1111

INGREDIENTS (TYPICAL VALUES-NOT SPECIFICATIONS) : % :

1,1,1-TRICHLOROETHANE (MINIMUM) : 95.5 :

SECTION 1 PHYSICAL DATA

APPEARANCE AND ODOR; COLORLESS LIQUID.

SECTION 2 FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: NONE : FLAMMABLE LIMITS

HETHOD USED: T.O.C., T.C.C., C.O.C. : LFL: 8% @ 25C UFL: 10.5% @ 25C

EXTINGUISHING MEDIA: WATER FOG.

SPECIAL FIRE FIGHTING EQUIPMENT AND HAZARDS: SELF-CONTAINED RESPIRATORY EQUIPMENT. NOT CONSIDERED A FLANMABLE LIQUID HAZARD UNDER AMBIENT TEMPERATURE USE CONDITIONS.

SECTION 3 REACTIVITY DATA

STABILITY: AVOID OPEN FLAMES, NELDING ARCS OR OTHER HIGH TEMPERATURE SOURCES WHICH INDUCE THERMAL DECOMPOSITION.

INCOMPATIBILITY: WATER - SLOW HYDROLYSIS PRODUCES CORROSIVE ACID.

HAZARDOUS DECOMPOSITION PRODUCTS: HYDROGEN CHLORIDE AND VERY SMALL AMOUNTS OF PHOSGENE AND CHLORINE.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

SECTION 4 SPILL, LEAK, AND DISPOSAL PROCEDURES

ACTION TO TAKE FOR SPILLS (USE APPROPRIATE SAFETY EQUIPMENT): SMALL LEAK S:

MOP UP, WIPE UP OR SOAK IMMEDIATELY. REMOVE TO OUT OF DOORS. LARGE-SPILLS: EVACUATE AREA. CONTAIN LIQUID; TRANSFER TO CLOSED METAL CONTAINERS. KEEP OUT OF WATER SUPPLIES.

(CONTINUED ON PAGE 2)
(R) INDICATES A TRADEMARK OF THE DOW CHEHICAL COMPANY

ETY DATA SHEET- (continued)

| | | Section 6 | HEALTH HAZ | ARD DATA | |
|-------------------------|-----------------------------------|------------------------------|---------------|--|--|
| STION | (| ··· | | 110-440 Mg/k | a) |
| Lethal do | se (man): | 5-30 ml/150 lb |). man. (| 110-440 Mg/K | g/ |
| Pain and | irritation, | but no, or only | y minor, co | orneal injury l | ikely. |
| SKIN CONTACT P | rolonged or | frequently rea | peated cont | act irritati | on may occur. |
| SKIN ABSORPTION | nort contact | no irritatio | on. If conf | ined to skin - | pain and a burn. |
| Very low | - not a haz | ard. | • | | |
| INMALATION (TLV | OR SUSSESTED CONTR | OL FIGURE) | | | |
| TLV - 10 | 00 ppm (1969 | }) | <u></u> | | |
| | | | ow levels (c | ver 100 ppm) | possible organic injury. |
| FIRST AID PROCED | | on If illnes | | et patient to f | resh air, keep him quie |
| | Skin & E | | _ | - • | get medical attention |
| | Ingestion | | | | recommendation. |
| TER TO BE TAKE | N IN CASE MATER | | PILL OR LEAK | | p up, wipe up or soak u |
| with abso | | ial using prop | er protecti | ve equipment. | Burv. |
| Large spi | ills Evac | uate area. Us | sing proper | protective ea | uipment, flush spill to |
| ground ar | d let evapor | rate. Keep ou | t of water | supply and awa | y from inhabited buildi |
| | | | | | to atmosphere at a |
| safe dista | nce from in | habited buildir | ngs. | | |
| | Se- | | IAL PROTECTI | ON INFORMATION | |
| ENTILATION | | r | | SPECIAL | |
| | X MECHANICAL (G | eneral) | <u> </u> | OTHER | |
| | x | | | | : |
| face: mas | k: above 2% | Below 100 |) ppm no | ne; 100 ppm | to 2% suitable full ganic canister. |
| ROTECTIVE CLOT | HING | | <u> </u> | | Lamare, Lamare |
| None othe | r than clean | clothing. | | | |
| NOT NORMAL NECESSARY | | Y GLASSES UT SIDE SHIELDS | | TY GLASSES . SIDE SHIELDS | CHEMICAL WORKERS GOGGLES |
| GAS TIGHT O | | | | | |
| OR EQUIVAL | ENT | OTHER: | | | |
| None | E Eddiemen : | | | | |
| | · · · · · · · · · · · · · · · · · | | | <u>. </u> | |
| | | | | | |
| BECAUTIONS TO'S | | tion 9 SPECIAL PE | RECAUTIONS OF | OTHER COMMENT | \$ |
| | | le care. Avoi | d breathing | vapors. Pro | vide adequate |
| ventilation | to control | vapors to 100 | ppm or les | s where daily | exposure is likely. |
| THER PRECAUTION | vs | | | | |
| • | · | | · | | · |
| | | | | | |
| | | | | | |

1K-S



| : | | | 5 | iection 1 | NAME & F | RODUCI | | | | |
|--|--|------------|--|--|---------------------------------|---|-------------------|------------------|-------------------|---|
| MANUS TO URI | | | | | *** | | EMERG | ENCY PHO | E NO. | 24 HOURS |
| | CHEMICAL | COM | 1PANY | | | | 517 | <u>- 636 - 4</u> | | |
| ST ACORE | | | | | For | latest data, con- | | HIS FORM | | N |
| | W CENTER | | | | | mondidelorer. | ^(d) Ju | ne 12, | 1971 | |
| . ATE, 2 | | | | | SI GN | ATURE OF STATE | VINGCO | MPANY OF | FICIAL | 0 |
| MIDLANE | MICHIGAN | 4864 | 40 | · · · · · · · · · · · · · · · · · · · | | | | <u> حتب</u> | | eX. |
| | TRADE NAME. | | | | | | <u> </u> | | | |
| riculo | roethylene | | | | | 1, 1, 2 -tr | richlo | roethyl | ene | |
| FORMULA OF PR | MARY COMPONE | ;NT (B) (| STRUCTU | MALI | • | , | | | | |
| | | | | | | | | | • | |
| (h) CHC | $= CCI^{3}$ | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | Section | 2 | INGRED | IENTS | • | | į | % | TLV (units) |
| | | | | | | ********** | | | | (0),,,,,, |
| | | | | , | | | | | | |
| Dichlo: | roethylene | (min | nimum) | | | | | | 95 | |
| | • | | | | | • | | į | | |
| | • | /NIo | : | fication va | 1 | | | | | |
| | | (140 | n speci | ilication va. | lues | | | | | |
| | | | | | | | | | • | i |
| | | | | | | | | i | | |
| | | | S | ection 3 | PHYSICAL | DATA | | | | ======================================= |
| BOILING POIN | T (°F.) | | | (87°C) | | C GRAVITY (H20 | = 1) | i. | 459 | |
| AFOR PRESSU | | 'c) | 60 | | | TILE BY VOLU | | 100 | | entially |
| SPOR D NST | | | 4.5 | 3 | | | | s - chl | | |
| | WATER | | neglig | | PHYSICA | | Liq | | | |
| | | Secti | ion 4 | | | HAZARD DATA | | -12 H | | |
| TO TONGTAN | O METHOD USED) | | | 1 | | LE LIMITS ISTP | | 4 | | |
| None | °F T. O. C. | <u>.T.</u> | . C. C | <u> </u> | L.F.L. 8 | 1.0 | U.F.L | 10. | . 5 | |
| CUISHING | WATER | _ | _ | FOAM | CO2 | ☐ DRY | OTHE | ₹ | | |
| | | | | FOAN | I ICON | | 1 1 | | | |
| MEDIA | I FOG | FOA | 1 | | 1 | CHEMICAL | | | | |
| APL CIAL PREF | FOG FOTE | TIVE | EQUIPMEN | т | | | ! | | - | |
| STECIAL REF | I FOG | TIVE | EQUIPMEN | т | | | | | | |
| APL CIAL PREF | FOG FOTE | TIVE | EQUIPMEN | т | | | | | | |
| Self con | tained resp | oirate | equipmen ory pro | т | | | | | | |
| Self con | FOG FOTE | oirate | equipmen ory pro | т | | | | | | |
| Self con | tained resp | oirate | equipmen ory pro | т | | | | | | |
| Self con | tained resp | oirate | equipmen ory pro | т | | | | | | |
| Self con | G-TING PROTECTED | oirate | ory pro | otection. | | CHEMICAL | | | - | |
| Self con | tained resp | Dirate | ory pro | otection. | EACTIVITY | CHEMICAL | | | | |
| Self con | tained resp | Dirate | Section Control | otection. | ACTIVITY | DATA | | | | |
| Self con | NORMAL CONDITIONS | Dirate | Section Control | otection. | ACTIVITY | CHEMICAL | ause | therma | 1 | |
| Self con | tained resp | Dirate | Section Control Contro | otection. | welding | DATA Tarcs (can c | | | 11 | |
| Self con | NORMAL CONDITIONS | Dirate | Section Control Contro | otection. | welding | DATA | | | 11 | |
| Self con None STABILITY | NORMAL CONDITIONS | Dirate | Seci Op dec | otection. Tion 5 RETIONS TO AVO D en flames, | welding | DATA gares (can ching HCl and | COC | xo کا اگا | IDIZIN | |
| Self con None STABILITY INCOMPAT- IBILITY | NORMAL CONDITIONS | Dirate | Section Control Contro | otection. Tion 5 RE TIONS TO AVOID en flames. composition | welding | DATA Tarcs (can c | COC | xo کا اگا | | |
| Self con Self con None STABILITY INCOMPAT- IBILITY (Materials to | NORMAL CONDITIONS FIRE CONDITIONS WATER | Dirate | Seci Op dec | otection. RETIONS TO AVOID en flames. composition | welding n produc | DATA gares (can coing HCl and | COC | xo کا اگا | IDIZIN | |
| Self con Self con None STABILITY INCOMPAT- IBILITY (Materials to avoid) | NORMAL CONDITIONS | * SI | Section of the condition of the conditio | otection. Tooks To Avo o en flames. composition b * X B. Bases: Cau | welding n produc | DATA gares (can eleing HCl and Corrosivita; Potash. | COC | N _o × | IDIZINI TERIAI | |
| Self con Self con None None Incompatible to gradie t | NORMAL CONDITIONS CONDITIONS WATER | * Si | Section of the control of the contro | otection. Tooks to Avo o en flames, composition Bases: Causes to high | welding n produce ASE astic Soc | DATA gares (can claim of the first term of the | COCI | N _o × | IDIZINI TERIAI | |
| Self con Self con None STABILITY INCOMPAT- IBILITY (Materials to avoid) | NORMAL CONDITIONS CONDITIONS WATER Chloride | * SI | Section of the control of the contro | otection. Tooks to Avo o en flames, composition Bases: Causes to high | welding n produce ASE astic Soc | DATA gares (can eleing HCl and Corrosivita; Potash. | COCI | N _o × | IDIZINI TERIAI | |
| Self con Self con None None Incompatible to gradie t | NORMAL CONDITIONS FIRE CONDITIONS WATER Chloride MAY | * SI | Section of the control of the contro | otection. Total State of Stat | welding n produce ASE astic Soc | DATA gares (can claim of the first term of the | COCI | N _o × | IDIZINI TERIAI | |
| Self con None None STABILITY INCOMPAT- IBILITY (Materials to avoid) HAZAHGOUS DE hydroge | NORMAL CONDITIONS CONDITIONS WATER Chloride | * SI | Section of the control of the contro | otection. Total State of Stat | welding n produce ASE astic Soc | DATA gares (can claim of the first term of the | COCI | N _o × | IDIZINI TERIAI | |

SEE PAGE 2 Nonhazardous Pine Chemicals Products List, 6/12/72

NONHAZARDOUS Pine Chemicals* Products

| Abalyn | Dresinate 91 | Foral 105 |
|-----------------|------------------|---------------------|
| Abitol | Dresinate 92 | Hercolyn D |
| Ale Oil | Dresinate 93 | Lewisol 7 |
| Anethole, Tech. | Dresinate 94 | Lewisol 28 |
| Aquapel 364 | Dresinate 95 | Limed Poly-pale |
| Aquapel 380 | Dresinate 214 | Limed Poly-pale, 5% |
| Aquapel 437 | Dresinate 731 | Limed Poly-pale, HM |
| Bresin 2 | Dresinate 7X1 | Melhi |
| Brisgo II | Dresinate DS-60W | Melhi N |
| Cellolyn 21 | Dresinate TX-60W | <u>Metalyn</u> |
| Cellolyn 102 | Dresinate TX-65W | Metalyn 100 |
| Cellolyn 104 | Dresinol 40 | Metalyn 100D |
| Defoamer 187 | Dresinol 42 | Metalyn 400 |
| Defoamer 340 | Dresinol 155 | Metalyn D |
| Defoamer 340F | Dresinol 205 | Metalyn 1191 |
| Defoamer 357 | Dresinol 210B | Metalyn 1191D |
| Defoamer 403 | Dresinol 215 | Neolyn 20 |
| Defoamer 491A | Dresinol 4095 | Neolyn 35D |
| Defoamer 831 | Dresinol 4096 | Neolyn 40 |
| Defoamer 918 | Dymerex | Neolyn 72 |
| Defoamer 918F | Ester Gum 5D | Neolyn 91 |
| Defoamer 1007B | Ester Gum 8BG | Neolyn 223 |
| Defoamer 1052 | Ester Gum 8D | PAD Resin |
| Defoamer 1512 | Ester Gum 8L | Paracol 403A6 |
| Defoamer 1883 | Ester Gum 10D | Paracol 403G6 |
| Defoamer 2053 | Ester Gum 12D | Paracol 403R6 |
| Defoamer 2103 | Evener 4B | Paracol 404A |
| Defoamer 2153 | Foral AX | Paracol 404C |
| Delfloc 50 | Foral D | Paracol 404G |
| Delfloc 763 | Foral 30 | Paracol 404N |
| Dresinate 81 | Foral 40 | Paraol 404R |
| Dresinate 90 | Foral 85 | Paracol 405G6 |
| | | |

^{*} Products produced and/or marketed by The Pine Chemicals Division of Hercules Pine & Paper Chemicals Department. If the Pine Chemicals product whose status you wish to establish does not appear among the above, check the "Hazardous" Pine Chemicals products list.

(more on page 2)

Nonhazardous Pine Chemicals Products List, 6/12/72

Page 2 (Continued)

NONHAZARDOUS Pine Chemicals* Products

| Paracol 447K | Pexate 329 | Surfactant AR100 |
|-------------------------------|----------------------------|-----------------------|
| Paracol 505G | Pexate 508E | Surfactant AR 150 |
| Paracol 505N | Pexate 510E | Surfactant AR200 |
| Paracol 560N | Pexate 511 | Vege tol |
| Pentaerythrital Tetrastearate | Pexate 549 | Vinsalyn 100 |
| Pentalyn A | Pexoil | Vînsalyn 110 |
| Pentalyn B25 | Polycup 171 | Vinsalyn 120 |
| Pentalyn B56 | Polycup 361 | Vinsalyn 130 |
| Pentalyn C | Polyol EOV | Vinsol |
| Pentalyn F | Poly-pale | Vinsol Emulsion |
| Pentalyn G | Poly-pale Ester 1 | Vinsol Ester Gum |
| Pentalyn H | Poly-pale Ester 10 | Vinsol Soap 5011, 50% |
| Pentalyn K | Polyrad 0515 | Vinsol Soap 5015, 50% |
| Pentalyn X | Polyrad 1100 | Vinsol Soap 3015, 30% |
| Pentalyn 255 | Polyrad 1110 | Wood Rosin, K |
| Pentalyn 261 | Residue R | Wood Rosin, M |
| Pentalyn 269 | Resin 731DX1 | Wood Rosin, N |
| Pentalyn 272 | Resin 861 | Wood Rosin, WG |
| Pentalyn 342 | Resin 917S, UF | • |
| Pentalyn 344 | Resin 1991 | · |
| Pentalyn 417 | Resin 1999 | |
| Pentalyn 450 | Resin 2000 | |
| Pentalyn 802A | Resin 2043 | • |
| Pentalyn 802A Pale | Resin NC-11 | |
| Pentalyn 830 | Rosin Residue | |
| Pentalyn 833 | Staybelite | |
| Pentalyn 840 | Staybelite F | |
| Pentalyn 856 | Staybelite Ester 3 | |
| Pentalyn 858 | Staybelite Ester 5 | |
| Pentalyn 860 | Staybelite Ester 10 | |
| Permalyn 330 | Superior Foam Killer | |
| Petrex Acid | Sulfonated Castor Oil, 75% | |

^{*} Products produced and/or marketed by The Pine Chemicals Division of Hercules Pine & Paper Chemicals Department. If the Pine Chemicals product whose status you wish to establish does not appear among the above, check the "Hazardous" Pine Chemicals products list.

Exhibit 3C

Other Brown-Bridge Wastes

| RETURN TO: KIMBERLY-CLARK CORPORATION |
|---------------------------------------|
| STREET ADDRESS |
| CITY - STATE - ZIP |
| ATTN: |
| |

FOR INFORMATION CONCERNING THIS DATA SHEET PLEASE CONTACT

NAME R. Sternasty

TELEPHONE NO. (513) 339-0561

MATERIAL SAFETY DATA SHEET

| I PRODUCT IDENTIFICATION | | | | | | | | |
|---------------------------|-----------------------------------|--|----------------------------------|------------------------------|-----------------|--|--|--|
| | Bridge Division Ly-Clark Corp. | REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694 | | | | | | |
| ADDRESS 517 East Water St | reet, Troy, Ohio 45373 | <u></u> | | | | | | |
| TRADE NAME BBM C1a | yfilled Splicing Tape | | | | | | | |
| SYNONYMS None | | | | | | | | |
| | II HAZARDOUS INGF | REDIEN | rs | | | | | |
| MATERIA | AL OR COMPONENT | | % | | HAZARD DATA | | | |
| Cloth Tape containing cl | ay and starch size | | 74% | Considered Non- Hazardous | | | | |
| Animal protein based adh | nesive | | Considered Non- 26% Hazardous | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | III PHYSICAL D | ATA | | • | | | | |
| BOILING POINT, 760 MM HG | N/A | MELTING | POINT | N/A | | | | |
| SPECIFIC GRAVITY (H20=1) | N/A | VAPOR PR | VAPOR PRESSURE N/A | | | | | |
| VAPOR DENSITY (AIR=1) | N/A | SOLUBILITY IN H ₂ O, % BY WT. | | | | | | |
| % VOLATILES BY VOL. | N/A | EVAPORA | TION RATI | E (BUTYL A | ACETATE=1) N/A_ | | | |
| APPEARANCE AND ODOR | Adhesive coated clo | th tape | | | | | | |

| IV FIRE AND EXPLOSION DATA | | | | | | | |
|---|--------------------|-------------|-----------|-----------------------------|-----------|----------|--------------|
| FLASH POINT (TEST METHOD) | > 200°F | • | | AUTOIGNITION TEMPERATURE | | | |
| FLAMMABLE LIMITS IN AIR, % BY VOL. | | LOWER | N/A | UPPER | N/A | | |
| EXTINGUISHING MEDIA | Class A, B, or | C Fire | Extingui | sher | • | | |
| SPECIAL FIRE FIGHTING PROCEDURES | None | | | | | | |
| UNUSUAL FIRE AND EXPLOSION HAZARD | None | | | | | | |
| | V HEAL | TH HA | AZARD | NFORMATIC | N | | |
| HEALTH HAZARD DA | TA None | | | | | | |
| ROUTES OF EXPOSUR | | | | AIR CONTAMINAL | NT CONCEN | ITRATION | s N/A |
| | N/K | | DATE | LOCATION | | TLV | TEST RESULTS |
| INHALATION | | | <u> </u> | | | | |
| SKIN CONTACT | | | | | | | |
| SKIN ABSORPT | ON | | | | | | |
| EYE CONTACT | | | | | | | |
| INGESTION | | | | | | | |
| EFFECTS OF OVEREX | | N/A | | | | | |
| CHRONIC OVER | EXPOSURE | N/A | | | | | |
| EMERGENCY AND FIF | AST AID PROCEDURES | N/A | | | | | |
| SKIN: | | • • • | | | | | |
| INHALATION: | | | | | | | |
| INGESTION: | | | | | | | |
| NOTES TO PHYSICIAN Adhesive co | ntains animal pro | otein (d | collagen) | | | | |

| CONDITIONS CONTRIBUTING TO INSTABILITY None INCOMPATIBILITY None HAZARDOUS DECOMPOSITION PRODUCTS CO_2, CO, and possibly oxides of nitrogen. CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION None VII SPILL OR LEAK PROCEDURES STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED N/A NEUTRALIZING CHEMICALS N/A WASTE DISPOSAL METHOD Any acceptable process for non-hazardous materials. VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None GLOVES NONE OTHER CLOTHING AND EQUIPMENT NONE | VI REACTIVITY DATA |
|---|--|
| INCOMPATIBILITY None HAZARDOUS DECOMPOSITION PRODUCTS CO_2, CO, and possibly oxides of mitrogen. CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION None VII SPILL OR LEAK PROCEDURES STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED N/A NEUTRALIZING CHEMICALS N/A WASTE DISPOSAL METHOD Any acceptable process for non-hazardous materials. VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None RESPIRATORY ISPECIFY IN DETAIL) EYE None GLOVES None OTHER CLOTHING AND EQUIPMENT | CONDITIONS CONTRIBUTING TO INSTABILITY |
| None HAZARDOUS DECOMPOSITION PRODUCTS CO_2, CO, and possibly oxides of nitrogen. CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION None VII SPILL OR LEAK PROCEDURES STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED N/A NEUTRALIZING CHEMICALS N/A WASTE DISPOSAL METHOD Any acceptable process for non-hazardous materials. VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None SPECIFIC PERSONAL PROTECTIVE EQUIPMENT NOne RESPIRATORY (SPECIFY IN DETAIL) EYE None GLOVES None OTHER CLOTHING AND EQUIPMENT | None |
| HAZARDOUS DECOMPOSITION PRODUCTS CO_2, CO, and possibly oxides of nitrogen. CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION None VII SPILL OR LEAK PROCEDURES STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED N/A NEUTRALIZING CHEMICALS N/A WASTE DISPOSAL METHOD Any acceptable process for non-hazardous materials. VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None RESPIRATORY (SPECIFY IN DETAIL) EYE None GLOVES None OTHER CLOTHING AND EQUIPMENT | INCOMPATIBILITY |
| MAZARDOUS DECOMPOSITION PRODUCTS CO_2, CO, and possibly oxides of fitrogen. CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION None VII SPILL OR LEAK PROCEDURES STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED N/A NEUTRALIZING CHEMICALS N/A WASTE DISPOSAL METHOD Any acceptable process for non-hazardous materials. VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None RESPIRATORY ISPECIFY IN DETAIL) EYE None GLOVES None OTHER CLOTHING AND EQUIPMENT | |
| CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION None VII SPILL OR LEAK PROCEDURES STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED N/A NEUTRALIZING CHEMICALS N/A WASTE DISPOSAL METHOD Any acceptable process for non-hazardous materials. VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None SPECIFIC PERSONAL PROTECTIVE EQUIPMENT NONE RESPIRATORY (SPECIFY IN DETAIL) EYE None GLOVES NONE OTHER CLOTHING AND EQUIPMENT | |
| VII SPILL OR LEAK PROCEDURES STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED N/A NEUTRALIZING CHEMICALS N/A WASTE DISPOSAL METHOD Any acceptable process for non-hazardous materials. VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None SPECIFIC PERSONAL PROTECTIVE EQUIPMENT NONE RESPIRATORY ISPECIFY IN DETAIL! EYE None GLOVES None OTHER CLOTHING AND EQUIPMENT | CO ₂ , CO, and possibly oxides of nitrogen. |
| VII SPILL OR LEAK PROCEDURES STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED N/A NEUTRALIZING CHEMICALS N/A WASTE DISPOSAL METHOD Any acceptable process for non-hazardous materials. VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None SPECIFIC PERSONAL PROTECTIVE EQUIPMENT NONE RESPIRATORY (SPECIFY IN DETAIL) EYE None GLOVES NONE OTHER CLOTHING AND EQUIPMENT | CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION |
| NEUTRALIZING CHEMICALS N/A WASTE DISPOSAL METHOD Any acceptable process for non-hazardous materials. VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None SPECIFIC PERSONAL PROTECTIVE EQUIPMENT NONE RESPIRATORY (SPECIFY IN DETAIL) EYE None GLOVES None OTHER CLOTHING AND EQUIPMENT | None |
| NEUTRALIZING CHEMICALS N/A WASTE DISPOSAL METHOD Any acceptable process for non-hazardous materials. VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None RESPIRATORY ISPECIFY IN DETAIL) EYE None GLOVES None OTHER CLOTHING AND EQUIPMENT | VII SPILL OR LEAK PROCEDURES |
| WASTE DISPOSAL METHOD Any acceptable process for non-hazardous materials. VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None RESPIRATORY (SPECIFY IN DETAIL) EYE None GLOVES None OTHER CLOTHING AND EQUIPMENT | STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED N/A |
| WASTE DISPOSAL METHOD Any acceptable process for non-hazardous materials. VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None RESPIRATORY (SPECIFY IN DETAIL) EYE None GLOVES None OTHER CLOTHING AND EQUIPMENT | |
| WASTE DISPOSAL METHOD Any acceptable process for non-hazardous materials. VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None RESPIRATORY (SPECIFY IN DETAIL) EYE None GLOVES None OTHER CLOTHING AND EQUIPMENT | |
| Any acceptable process for non-hazardous materials. VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None RESPIRATORY (SPECIFY IN DETAIL) EYE None GLOVES None OTHER CLOTHING AND EQUIPMENT | NEUTRALIZING CHEMICALS N/A |
| VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None RESPIRATORY (SPECIFY IN DETAIL) EYE None GLOVES None OTHER CLOTHING AND EQUIPMENT | WASTE DISPOSAL METHOD |
| VENTILATION REQUIREMENTS None SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None RESPIRATORY (SPECIFY IN DETAIL) EYE None GLOVES None OTHER CLOTHING AND EQUIPMENT | Any acceptable process for non-hazardous materials. |
| VENTILATION REQUIREMENTS None SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None RESPIRATORY (SPECIFY IN DETAIL) EYE None GLOVES None OTHER CLOTHING AND EQUIPMENT | |
| None SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None RESPIRATORY (SPECIFY IN DETAIL) EYE None GLOVES None OTHER CLOTHING AND EQUIPMENT | VIII SPECIAL PROTECTION INFORMATION |
| SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None RESPIRATORY (SPECIFY IN DETAIL) EYE None GLOVES None OTHER CLOTHING AND EQUIPMENT | VENTILATION REQUIREMENTS |
| SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None RESPIRATORY (SPECIFY IN DETAIL) EYE None GLOVES None OTHER CLOTHING AND EQUIPMENT | None |
| None RESPIRATORY (SPECIFY IN DETAIL) EYE None GLOVES None OTHER CLOTHING AND EQUIPMENT | |
| RESPIRATORY (SPECIFY IN DETAIL) EYE None GLOVES None OTHER CLOTHING AND EQUIPMENT | |
| GLOVES None OTHER CLOTHING AND EQUIPMENT | |
| OTHER CLOTHING AND EQUIPMENT | EYE None |
| | GLOVES None |
| None | OTHER CLOTHING AND EQUIPMENT |
| | None |
| ı | |
| | |

| IX SPECIAL PR | ECAUTIONS |
|--|------------------------------|
| ECAUTIONARY ATEMENTS | |
| ATEMEN 13 | |
| None | |
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| Store between 50°F and 80°F and preferably Rotate stock. | between 30 and 50% R.H. |
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| | |
| EPARED BY: R. S. Sternasty | TELEPHONE NO. (513) 339-0561 |
| | |
| DRESS: Brown-Bridge Division, 517 East Wate | er Street. Troy. Ohio |
| | |

| RETURN TO: KIMBERLY-CLARK | CORPORATION |
|------------------------------|-------------|
| STREET ADDRESS | |
| CITY . STATE · ZIP | |
| ATTN: | * |

FOR INFORMATION CONCERNING THIS DATA SHEET PLEASE CONTACT

NAME R. Sternasty

TELEPHONE NO. (513) 339-0561

MATERIAL SAFETY DATA SHEET

| | I PRODUCT IDENT | IFICATION | | |
|---------------------------------------|---|--------------------|------------------------------|--|
| | rown-Bridge Division imberly-Clark Corp. | REGULAR TE | LEPHO TELEP | NE NO. (513) 339-0561 HONE NO. (513) 339-0694 |
| ADORESS 517 East Wat | ter Street, Troy, Ohio 453 | 73 | | |
| TRADE NAME BB | 3Z Clayfilled Splicing Tape | | _ | |
| SVNONVMS | one | | | |
| | II HAZARDOUS INC | GREDIENTS |) | |
| м | MATERIAL OR COMPONENT | | જ | HAZARD DATA |
| | | | Considered Non- Hazardous | |
| Animal protein base | | | 24% | Considered Non- Hazardous |
| | | : | | |
| | | | | |
| | | | | |
| | | | | |
| | III PHYSICAL | DATA | | - |
| BOILING POINT, 760 MM HG | N/A | MELTING POINT N/A | | |
| SPECIFIC GRAVITY (H ₂ O=1) | N/A | VAPOR PRESSURE N/A | | |
| VAPOR DENSITY (AIR=1) | N/A | SOLUBILITY | N H ₂ O | |
| | | | | |
| % VOLATILES BY VOL. | N/A | EVAPORATIO | N RATI | E (BUTYL ACETATE+1) N/A |

| | IV FIRE AN | D EXPL | OSION DATA | ١ | | |
|---|------------------------|------------|-----------------------------|----------|---------|--------------|
| FLASH POINT (TEST METHOD) | > 200°F | | AUTOIGNITION TEMPERATURE | > | 200°F | |
| FLAMMABLE LIMITS IN | AIR, % BY VOL. | LOWER | N/A | UPPER | N/A | |
| EXTINGUISHING MEDIA | Class A, B, or C | Fire Exti | nguisher ' | | | |
| SPECIAL FIRE FIGHTING PROCEDURES | GHTING NOTE | | | | | |
| UNUSUAL FIRE AND EXPLOSION HAZARD | None | | | | | |
| | V HEALTH H | AZARD | INFORMATIO | N | | |
| HEALTH HAZARD DAT | A None | | | | | |
| ROUTES OF EXPOSURE | N/A | | AIR CONTAMINAN | T CONCEN | TRATION | S N/A |
| INDIAL ATION | | DATE | LOCATION | | TLV | TEST RESULTS |
| INHALATION | | ┪ | | | | • • |
| SKIN CONTACT | | ╃—— | | | | |
| SKIN ABSORPTIO | N | <u> </u> | | | | , |
| EYE CONTACT | | - | | | - | |
| INGESTION | | 1 | | | | |
| EFFECTS OF OVEREXP | | | | | | |
| CHRONIC OVERE | | | | | | |
| EMERGENCY AND FIRS | ST AID PROCEDURES N/A | | | | | |
| EYES | | | · | | | |
| SKIN: | | | | | | |
| INHALATION: | | | | | | |
| INGESTION: | | | | | | |
| NOTES TO PHYSICIAN | | | | | | |
| | imal numatain (| (11egan) | | | | |
| Adnesive con | tains animal protein (| (corragen) | • | | | |
| | | | | | | |
| | | | | | | |

| | VI REACTIVITY DATA | |
|--------------------------|--|------------------|
| CONDITIONS CONTR | RIBUTING TO INSTABILITY | |
| None | | |
| INCOMPATIBILITY | | _ _ · |
| None | | |
| HAZARDOUS DECOM | APOSITION PRODUCTS , | |
| CO ₂ , CO, ar | nd possibly oxides of Mitrogen. | |
| CONDITIONS CONTR | IIBUTING TO HAZARDOUS POLYMERIZATION | |
| | VII SPILL OR LEAK PROCEDURES | |
| STEPS TO BE TAKEN | IF MATERIAL IS RELEASED OR SPILLED N/A | |
| NEUTRALIZING CHE | | |
| | VIII SPECIAL PROTECTION INFORMATION | |
| VENTILATION REQUI | IREMENTS | |
| SPECIFIC PERSONAL | PROTECTIVE EQUIPMENT None | |
| RESPIRATORY (SF | PECIFY IN DETAIL) | |
| EY E | None | |
| GLOVES | None | |
| OTHER CLOTHING | AND EQUIPMENT None | |
| | | |

| IX SPECIAL PRECAUTIONS | | | | | |
|-------------------------------------|----------------|------------------|--------------|--------------------|-------------|
| PRECAUTIONARY STATEMENTS | | | | | |
| | | | | | |
| None | | | | | |
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| | | | | | ;* |
| | | | | | |
| OTHER HANDLING A STORAGE REQUIRE | MENTS | | | • | |
| | | 80°F and prefer | ably between | 30 and 50% R.H. | |
| Rotate st | ock. | | | | |
| | | | | | |
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| | | _ | | | |
| PREPARED BY: R. | S. Sternasty | | | TELEPHONE NO. (513 | 3) 339-0561 |
| ADDRESS: Br | own-Bridge Div | vision. 517 East | Water Street | Troy Ohio | |
| | | | | | |
| DATE: 1/ | 4/84 | | | | |



RETURN TO:

KIMBERLY CLARK CORPORATION

STREET MILLS Suc

CITYSTATE-ZIP TO DESCRIPTION

ATTN:

KIMBERLY CLARK CORPORATION

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FOR INFORMATION CONCERNING THIS DATA SHEET PLEASE CONTACT

NAME P. ST. W. Z.

relephone no. (213) 337-056/

MATERIAL SAFETY DATA SHEET

| PRODUCT IDENT | | | | |
|----------------------------------|--|--------------------------|--|--|
| MANUFACTURER'S NAME | REGULAR 1 EMERGENC | ELEPHONE Y TELEPHO | DNE NO (5/3) 339-0561 DNE NO (5/3) 329-0694 | |
| ADDRESS 5/7 Say Say | Tara Do | hin 4 | 537/2 | |
| TRADE NAME (BBM) Cary | ¿ Spein | × / | ave . 1,2,3 | |
| SYNONYMS | | <u> </u> | | |
| II HAZARDOUS IN | IGREDIENT | S | | |
| MATERIAL OR COMPONENT | | % | HAZARD DATA | |
| Abore : | | | | |
| Cloth Tape containing clay | and | A | Considered | |
| starch sing Non-Hazardons | | | | |
| arinal protein based asher | aring protein based adhesing B (mistered | | | |
| | | | Non- Hazardines | |
| | | | 0 | |
| III PHYSICA | L DATA | | | |
| BOILING POINT, 760 MM HG N/A | MELTING PO | DINT | N/A | |
| SPECIFIC GRAVITY (H2O=1) | VAPOR PRE | SSURE | N/A | |
| VAPOR DENSITY (AIR=1) | SOLUBILITY | / IN H ₂ O, % | BY WT. (-40%) | |
| % VOLATILES BY VOL. | EVAPORATI | ON RATE | BUTYL ACETATE=1) | |
| APPEARANCE AND ODOR Cidheine Con | ted cloth | Type - | | |

KC 1453-D

N/A - had the hand

| IV FIRE AND EXPLOSION DATA | | | | | | |
|--|-------------------|-----------------------------|--------------|---------------------------------------|--|--|
| FLASH POINT (TEST METHOD) > 200 F | | AUTOIGNITION TEMPERATURE | >20 | o°F | | |
| FLAMMABLE LIMITS IN AIR, % BY VOL. | LOWER | NA | UPPER | N/A | | |
| EXTINGUISHING CLESS A, 10, | ~ C | Fire St. | | | | |
| SPECIAL FIRE FIGHTING PROCEDURES None | | | | | | |
| UNUSUAL FIRE AND EXPLOSION HAZARD | | | | | | |
| V HEALTH H | AZARD | INFORMATION | 1 | | | |
| HEALTH HAZARD DATA None | · | | | · · · · · · · · · · · · · · · · · · · | | |
| ROUTES OF EXPOSURE WA | | AIR CONTAMINANT | CONCENTRATIO | NS N/A | | |
| INHALATION | DATE | LOCATION | TLV | TEST RESULTS | | |
| SKIN CONTACT | | | | | | |
| SKIN ABSORPTION | | | | | | |
| EYE CONTACT | | | | | | |
| INGESTION | | | | | | |
| EFFECTS OF OVEREXPOSURE ACUTE OVEREXPOSURE | | | | | | |
| CHRONIC OVEREXPOSURE | / ' | | | | | |
| EMERGENCY AND FIRST AID PROCEDURES | · | | | | | |
| EYES | 7 | | | | | |
| SKIN: | SKIN: | | | | | |
| INHALATION: | | | | | | |
| INGESTION: | | | | | | |
| NOTES TO PHYSICIAN | | | | | | |
| Ottorius Curtain animal protein | | | | | | |
| attesive and the | . , |) | - 00 | \ | | |
| Odlesive contains a | nemal | protein (| collag | en) | | |
| | | | | | | |

| | VI REACTIVITY DATA |
|---|---|
| - | CONDITIONS CONTRIBUTING TO INSTABILITY |
| | Nonc |
| | INCOMPATIBILITY None. |
| | HAZARDOUS DECOMPOSITION PRODUCTS CO2, CO, and possibly oxides of vitrogen. |
| | CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION |
| | Nemi |
| | VII SPILL OR LEAK PROCEDURES |
| | STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED |
| | NEUTRALIZING CHEMICALS |
| | WASTE DISPOSAL METHOD Eng. Legiting process for |
| | VIII SPECIAL PROTECTION INFORMATION |
| | VENTILATION REQUIREMENTS No Output Description Output Descriptio |
| | SPECIFIC PERSONAL PROTECTIVE EQUIPMENT |
| | RESPIRATORY (SPECIFY IN DETAIL) |
| | EYE |
| | GLOVES None |
| | OTHER CLOTHING AND EQUIPMENT |
| | None |
| | |

| IV FIRE AND EXPLOSION DATA | | | | | | |
|---|--------------------|----------------|-----------------------------|----------------|--------------|--|
| FLASH POINT (TEST METHOD) | > 200°F | | AUTOIGNITION TEMPERATURE | >20 | o°F | |
| FLAMMABLE LIMITS | N AIR, % BY VOL. | LOWER | NA | UPPER | N/A | |
| EXTINGUISHING MEDIA | | | | | | |
| SPECIAL FIRE FIGHTING PROCEDURES None | | | | | | |
| UNUSUAL FIRE AND EXPLOSION HAZARD | AND EXPLOSION | | | | | |
| | V HEALTH H | AZARD | INFORMATIO | N | | |
| HEALTH HAZARD DA | TA None | | _ | | | |
| ROUTES OF EXPOSUF | RE NA | | AIR CONTAMINAN | T CONCENTRATIO | ons N/A | |
| INHALATION | 1 | DATE | LOCATION | TLV | TEST RESULTS | |
| SKIN CONTACT | | | † | | | |
| SKIN ABSORPT | ION | | | | | |
| EYE CONTACT | | | | | | |
| INGESTION | | | | | | |
| EFFECTS OF OVEREX | / / • | - - | | | | |
| CHRONIC OVER | REXPOSURE | , } | | , | | |
| EMERGENCY AND FIR | RST AID PROCEDURES | | | | | |
| EYES | EYES W/A | | | | | |
| SKIN: | | | | | | |
| INHALATION: | | | | | | |
| INGESTION: | | | | | | |
| NOTES TO PHYSICIAN | • | | | | | |
| atherine | Curtain as | unal | prolone | | | |
| Cado. | e contains a | کر بین بین | protein | Collag | 041) | |
| Calles | | | , , , , , | | | |
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MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

| MANUFACTURER'S NAME Brown-Bridge, Paper Sector, Kimberly-Clark Cor | REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0561 |
|--|--|
| ADDRESS 518 E. Water St., Troy, Ohio 45373 | |
| CHEMICAL NAME AND SYNONYMS N/A | cas no. N/A un no. None |
| TRADE NAME AND SYNONYMS BBL Clayfilled Splicing Ta | pe |
| CHEMICAL FAMILY | FORMULA |
| N/A | N/A |
| SHIPPING NAME: DOT: | IATA: |
| Sealing Tape. Cloth or Cloth and Paper Combine | d. Gummed in Pkgs. Class 85 |

II HAZARDOUS INGREDIENTS

| MATERIAL OR COMPONENT | CAS NO. UN NO. | * | HAZARD DATA |
|-----------------------|-------------------|-----|--------------------------|
| Cloth Tape Containing | | | |
| Clay and Starch Size | N/A | 67% | Considered Non-Hazardous |
| Animal Protein | | | |
| based Adhesive | N/A | 33% | Considered Non-Hazardous |
| | | | |

III PHYSICAL DATA

| BOILING POINT, 760 mm Hg | N/A | MELTING POINT N/A | |
|---------------------------------------|-------------------------------|--|---------|
| SPECIFIC GRAVITY (H ₂ O=1) | N/A | VAPOR PRESSURE (mm Hg at °C | N/A |
| VAPOR DENSITY (AIR=1) | N/A | SOLUBILITY IN H ₂ O, % BY WT. | 41% |
| % VOLATILES BY VOL. | N/A | EVAPORATION RATE (| -1) N/A |
| APPEARANCE AND ODOR | Adhesive Coated Cloth Tape | pH (AS IS) pH AT DILUTION | N/A |

IV FIRE AND EXPLOSION DATA

| FLASH POINT (TEST METHOD) | > 200°F | AUTO IGNITION TEMPERATURE > 20 | FLAMMABLE LIMITS 10°F IN AIR, % BY VOL.: | LOWER: UPPER: | N/A |
|---|---------|--------------------------------|--|------------------|-----|
| EXTINGUISHING MEDIA | Clas | s A, B, or C Fire | e Extinguisher | | |
| SPECIAL FIRE FIGHTING PROCEDURES | None | | | | |
| UNUSUAL FIRE AND EXPLOSION HAZARD | None | | | | |

V HEALTH HAZARD INFORMATION

| HEALTH HAZARU DATA | HAZARD CLASSIFICATION | BASIS FOR CLASSIFICATION | SOURCE |
|--|-----------------------|---------------------------|--------|
| ROUTES OF EXPOSURE INHALATION | None | | |
| | | •• | |
| SKIN CONTACT | None | | |
| SKIN ABSORPTION | None | | |
| EYE CONTACT | None | | |
| | | | |
| INGESTION | None | | |
| EFFECTS OF OVEREXPOSURE ACUTE OVEREXPOSURE | N/A | | |
| CHRONIC OVEREXPOSURE | N/A | | |
| EMERGENCY AND FIRST AID PR EYES | | | |
| SKIN | N/A N/A | | |
| INHALATION | N/A | | |
| INGESTION | N/A | | |
| NOTES TO PHYSICIAN | Adhesive contains | animal protein (collagen) | |

VI REACTIVITY DATA

| . ' | IX SPECIAL PRECA | AUTIONS |
|---|--------------------|--|
| LABELING INFORMATION AND WARNINGS | | DATA FOR HAZARDS INFORMATION LABEL |
| | | Hazard Code 4 = Extreme 3 = High 2 = Moderate 1 = Slight 0 = Insignificant Mealth Special |
| OTHER HANDLING AND STORAGE REQUIREMEN | YTS | |
| Store between 50°F and 80°F Rotate stock. | and preferably be | tween 30 and 50% R.H. |
| | X DISPOSAL | <u> </u> |
| WASTE DISPOSAL METHOD | | |
| Any acceptable process for | non-hazardous mate | rials. |
| | | |
| | | |
| | | |
| | | |
| AQUATIC TOXICITY (eg. 98 hr TLM): No kno | wn toxicity | |
| × | I GOVERNMENT REC | GULATIONS |
| REFERENCE TO APPLICABLE GOVERNMENT REGULATIONS | | REGULATION HIGHLIGHTS |
| FEDERAL | | |
| DOT Hazard Class | None | |
| | | |
| | | |
| | | |
| | | |
| | | |
| STATE | N/A | |
| | | |
| | | |
| | | |
| | | |
| ОТНЕЯ | N/A | |
| | | |
| | | |
| REPARED BY: R. S. Sternasty | COMPANY | : Brown-Bridge, K-C Corp. |
| DDRESS:518 E. Water St., Tr | OV OH 45373 | TEL. NO.: (513) 339. 0561 |
| - III HALET DL. II | 77 4 AT 399(7 | 166, 190, 1 222, 200 |

| RETURN TO: KIMBERLY-CLARK CORPORATION | |
|---------------------------------------|---|
| STREET ADDRESS | _ |
| CITY - STATE - ZIP | |
| ATTN: | |
| | |

FOR INFORMATION CONCERNING THIS DATA SHEET PLEASE CONTACT

NAME R. Sternasty

TELEPHONE NO. (513) 339-0561

MATERIAL SAFETY DATA SHEET

| ! 1 1 | PRODUCT IDENTIFI | CATION | | | | |
|---|--|--------------------|-----|-------------------------|---------|--|
| MANUFACTURER'S NAME Brown-Bridge Division REGULAR TELEPHONE NO. (513) 339- Kimberly-Clark Corp. (513) 339- | | | | | | |
| ADDRESS 517 East Water St | reet. Troy. Ohio 45373 | | | | | |
| TRADE NAME BBL Clay | filled Splicing Tape | · | | | | |
| SYNONYMS None | | | | | | |
| il | HAZARDOUS INGR | EDIENTS | 1 | | | |
| MATERIAL | OR COMPONENT | | % | HAZAI | ATAD DF | |
| Cloth Tape containing clay | and starch size | 6 | 7% | Considered | i Non- | |
| | | | | Hazardous | | |
| Animal protein based adhesive | | | | Considered Hazardous | l Non- | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | III PHYSICAL D | ATA | | | | |
| BOILING POINT, 760 MM HG | MELTING POI | NT | N/A | | | |
| SPECIFIC GRAVITY (H ₂ O=1) | VAPOR PRESS | VAPOR PRESSURE N/A | | | | |
| VAPOR DENSITY (AIR=1) N/A SOLUBILITY IN H2O, % BY WT. 41% | | | | | | |
| % VOLATILES BY VOL. | VOLATILES BY VOL. N/A EVAPORATION RATE (BUTYL ACETATE=1) | | | | | |
| APPEARANCE AND ODOR | Adhesive coated clot | h tape | | | | |

| > 200°F | | AUTOIGNITION TEMPERATURE | > | 200°1 | 3 |
|-------------------------|-----------------|-----------------------------|-------------|---------------------------------|-------------|
| IN AIR, % BY VOL. | LOWER | N/A | UPPER N/A | | |
| Class A, B, or C I | Fire Extinguish | er | • | | |
| None | | | | | |
| None | | | | | |
| V HEALT | H HAZARD II | NFORMATIO | N | | |
| DATA None | ····· | | | | |
| SURE N/A | DATE | AIR CONTAMINAN | | CENTRATIONS N/A TLV TEST RESULT | |
| <u>JN</u> | | | | | |
| TACT | | | | | |
| DRPTION | | | | | |
| TACT | | | | | |
| on | | | | | |
| VEREXPOSURE N/A | | | | | |
| OVEREXPOSURE N/A | | | | | |
| ND FIRST AID PROCEDURES | | | | | |
| ion: | | | | | |
| ON: | | | | | |
| r: | | | | | |

| | IX SPECIAL PRECAUTIONS | |
|--|--|-------------|
| PRECAUTIONAR' STATEMENTS | None | |
| | | |
| | | |
| | • | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| OTHER HANDLIN STORAGE REQUI Store be Rotate | EMENTS tween 50°F and 80°F and preferably between 30 and 50% R.H. | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| PREPARED BY: | R. S. Sternasty TELEPHONE NO. (513) 339-050 | 1 |
| ADDRESS: | Brown-Bridge Division, 517 East Water St., Troy, Ohio | |
| | | |

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

| MANUFACTURER'S NAME Brown-Bridge, Paper | r Sector, Kimbe | rly-Clark Co | I . | REGULAR TELE | | (513) (513) | 339-0561 339-0561 |
|---|-----------------|---------------|---------|------------------|-------------|----------------|----------------------|
| ADDRESS 518 E. Water St., 1 | Troy, Ohio 453 | 73 | | | | | |
| CHEMICAL NAME AND SYNONYMS | N/A | | | CAS NO UN NO. | N/A None | | |
| TRADE NAME AND SYNONYMS | BBM Clayfille | d Splicing Ta | ре | | | | |
| CHEMICAL FAMILY | | | FORMULA | | | - | |
| | N/A | | | N/A | | | |
| SHIPPING NAME: DOT: | | | IATA: | | | | |
| Sealing Tape, Cloth | or Cloth and | Paper Combine | d. Gumm | ed in Pkgs | . Class | 85 | |

II HAZARDOUS INGREDIENTS

| MATERIAL OR COMPONENT | CAS NO. UN NO. | * | HAZARO DATA |
|-----------------------|-------------------|-----|--------------------------|
| Cloth Tape Containing | | | |
| Clay and Starch Size | N/A | 74% | Considered Non-Hazardous |
| | | 1 | |
| Animal Protein | | - | |
| based Adhesive | N/A | 26% | Considered Non-Hazardous |
| | | | |

III PHYSICAL DATA

| BOILING POINT, 760 mm Hg | N/A | MELTING POINT N/A | |
|---------------------------------------|-----------------|--|----------|
| SPECIFIC GRAVITY (H ₂ O=1) | N/A | VAPOR PRESSURE (mm Hg at | C) N/A |
| VAPOR DENSITY (AIR=1) | N/A | SOLUBILITY IN H ₂ O, % BY WT. | 36% |
| % VOLATILES BY VOL. | N/A | EVAPORATION RATE (| = 1) N/A |
| APPEARANCE AND ODOR | Adhesive Coated | pH (AS IS) pH AT DILUTION | N/A |

IV FIRE AND EXPLOSION DATA

| FLASH POINT (TEST METHOD) | >200°F | AUTO IGNITION TEMPERATURE | >200°F | FLAMMABLE LIMITS IN AIR, % BY VOL.: | LOWER: UPPER: | N/A |
|---|--------|------------------------------|---------|--|------------------|-----|
| EXTINGUISHING MEDIA | Class | s A, B, or C | Fire Ex | tinguisher | | - |
| SPECIAL FIRE FIGHTING PROCEDURES | None | | | | | |
| UNUSUAL FIRE AND EXPLOSION HAZARD | None | | | | | |

V HEALTH HAZARD INFORMATION

| HEALTH HAZARU DATA | HAZARD CLASSIFICATION | BASIS FOR CLASSIFICATION | SOURCE |
|----------------------------------|-----------------------|--------------------------|--------|
| ROUTES OF EXPOSURE INHALATION | None | | |
| | | • | |
| | | | |
| SKIN CONTACT | None | | |
| | | | |
| | | | |
| SKIN ABSORPTION | Non e | | |
| | | | |
| | | | |
| EYE CONTACT | None | | |
| | | | |
| | | | |
| INGESTION | None | | |
| | | | |
| | | | |
| FFECTS OF OVEREXPOSURE | | | |
| N/A CHRONIC OVEREXPOSURE | | | |
| N/A MERGENCY AND FIRST AID I | PROCEDURES | | |
| EYES | N/A | | |
| SKIN | N/A | | |
| | • - | | |
| INHALATION | N/A | | |
| INGESTION | N/A | | |
| | • | | |

VI REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY

INCOMPATIBILITY (MATERIALS TO AVOID)

HAZARDOUS DECOMPOSITION PRODUCTS

None

None

| When burned, CO ₂ , CO and poss | sibly oxides of nitrogen |
|--|--|
| | AND VALCE LEAVE IN THE PARTY OF |
| CONDITIONS CONTRIBUTING TO HAZARDOUS PO | OLYMERIZATION |
| None | |
| | |
| VI | /II SPILL OR LEAK PROCEDURES |
| STEPS TO BE TAKEN IF MATERIAL IS RELEASED | |
| | N/A |
| | |
| NEUTRALIZING CHEMICALS N/A | |
| WASTE DISPOSAL METHOD OF SPILL OR LEAK | |
| N/A | |
| | |
| VIII SP | PECIAL PROTECTION INFORMATION |
| VENTILATION REQUIREMENTS | |
| None | |
| | |
| | |
| SPECIFIC PERSONAL PROTECTIVE EQUIPMENT | |
| RESPIRATORY (SPECIFY IN DETAIL) | None |
| | |
| EYE | None |
| | |
| GLOVES | None |
| | None |
| OTHER CLOTHING AND EQUIPMENT | |
| None | |
| | |
| | |
| | |
| | |
| | 3 |

| | IX SPECIAL PRECAUT | TIONS |
|---|-----------------------|--|
| OTHER HANDLING AND STORAGE REQUIREM Store between 50°F and 80° | | DATA FOR HAZARDS INFORMATION LABEL Hazard Code 4 = Extreme 3 = High 2 = Moderate 1 = Slight 0 = Insignificant Health O Special |
| Rotate stock. | V DISOSAI | |
| WASTE DISPOSAL METHOD | X DISPOSAL | |
| Any acceptable process for | non-hazardous materia | als. |
| | XI GOVERNMENT REGUL | ATIONS |
| | | REGULATION HIGHLIGHTS |
| REFERENCE TO APPLICABLE GOVERNMENT REGULATIONS | , | |
| FEDERAL | | |
| DOT Hazard Class | None | |
| STATE | N/A | |
| ОТНЕЯ | N/A | |
| PREPARED BY: R. S. Sternasty | COMPANY: Br | rown-Bridge, K-C Corp. |
| ADDRESS: 518 E. Water Street. | Troy. Ohio 45373 | TEL. NO.: (513)339.0561 |
| DATE PREPARED: 7/25/85 | LATEST REVIS | 100 DATE: 7/25/85 |

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

| MANUFACTURER'S NAME Brown-Bridge, Paper Sector, Kimberly-Clark Corp. | REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0561 |
|--|--|
| ADDRESS | |
| 517 East Water St., Troy, Ohio 45373 | |
| CHEMICAL NAME AND SYNONYMS | CAS NO. N/A |
| N/A | un no. None |
| TRADE NAME AND SYNONYMS BBL Clayfilled Splicing Tape | |
| CHEMICAL FAMILY FORMU | ILA N/A |
| N/A | N/A |
| SHIPPING NAME: DOT: XXXX: Sealing Tape, Cloth or Cloth and Paper Combined, | Gummed in Pkgs. Class 85 |

II HAZARDOUS INGREDIENTS

| Considered Non-Hazardous |
|--------------------------|
| |
| Considered Non-Hazardous |
| |

III PHYSICAL DATA

| BOILING POINT, 760 mm Hg | N/A | MELTING POINT N/A | |
|---------------------------------------|-----------------|--|-----|
| SPECIFIC GRAVITY (H ₂ O=1) | N/A | VAPOR PRESSURE (mm Hg at °C) N/A | |
| VAPOR DENSITY (AIR=1) | N/A | SOLUBILITY IN H ₂ O, % BY WT. 41% | |
| % VOLATILES BY VOL. | N/A | EVAPORATION RATE (=1) | N/A |
| APPEARANCE AND ODOR Adh | nesive Coated (| pH (AS IS) | |

IV FIRE AND EXPLOSION DATA

| FLASH POINT (TEST METHOD) | 200°F | AUTO IGNITION TEMPERATURE | 200°F | FLAMMABLE LIMITS IN AIR, % BY VOL.: | LOWER: UPPER: | N/A |
|--|-------------|------------------------------|---------------------------------------|-------------------------------------|------------------|-----|
| EXTINGUISHING MEDIA | Class A, B, | or C Fire Exti | inguish | er | | |
| SPECIAL FIRE FIGHTING PROCEDURES | None | | | | | |
| UNUSUAL FIRE AND EXPLOSION- HAZARD | None | | · · · · · · · · · · · · · · · · · · · | ······ | | |

V HEALTH HAZARD INFORMATION

| HEALTH HAZARU DATA | HAZARD CLASSIFICATION | BASIS FOR CLASSIFICATION | SOURCE |
|---|-----------------------|----------------------------|--------|
| ROUTES OF EXPOSURE | None | • | |
| SKIN CONTACT | None | | |
| SKIN ABSORPTION | None | | |
| EYE CONTACT | None | | |
| INGESTION | None | | |
| | | | |
| EFFECTS OF OVEREXPOSURE ACUTE OVEREXPOSURE | N/A | | |
| CHRONIC OVEREXPOSURE | N/A | | |
| MERGENCY AND FIRST AID P | ROCEDURES | | |
| EYES | N/A | | |
| SKIN | N/A | | |
| INHALATION | N/A | | · |
| INGESTION | N/A | | |
| NOTES TO PHYSICIAN | | | |
| | Adhesive contains | animal protein (collagen). | |
| | | | |
| | | | |

VI REACTIVITY DATA

| CONDITIONS CONTRI | BUTING TO INSTABILITY | |
|--------------------------|---|---|
| None | | |
| INCOMPATIBILITY (M | ATERIALS TO AVOID) | |
| None | • | |
| HAZARDOUS DECOME | POSITION PRODUCTS | |
| When bur | med, CO ₂ , CO, and possibly oxides of nitrogen. | |
| CONDITIONS CONTRI | BUTING TO HAZARDOUS POLYMERIZATION | |
| None | | |
| | VII SPILL OR LEAK PROCEDURES | |
| STEPS TO BE TAKEN I | F MATERIAL IS RELEASED OR SPILLED | |
| N/A | | |
| | | |
| | | |
| NEUTRALIZING CHEM N/A | HCALS | |
| | THOD OF SPIŁL OR LEAK | |
| N/A | | |
| , | | |
| | | |
| | VIII SPECIAL PROTECTION INFORMATION | |
| VENTILATION REQUI | REMENTS | - |
| None | | |
| | | |
| | | |
| | ROTECTIVE EQUIPMENT IFY IN DETAIL) None | |
| RESPIRATORY (SPEC | IFY IN DETAIL) NOTE | |
| eve | None | |
| EYE | none | |
| GLOVES | None | |
| 0.000 | none | |
| OTHER CLOTHING A | ND EQUIPMENT | |
| None | | |
| - · | | |
| | | |
| | | |
| ì | | |

| | IX SPECIAL PRECAL | JTIONS |
|--|-------------------|---|
| LABELING INFORMATION AND WARNINGS | | DATA FOR HAZARDS INFORMATION LABEL Hazard Code 4 = Extreme 3 = High 2 = Moderate 1 = Slight 0 = Insignificant . Health 0 Special |
| OTHER HANDLING AND STORAGE REQUIREMENTS Store between 50°F and 8 Rotate Stock. | | between 30 and 50% R.H. |
| WASTE DISPOSAL METHOD | X DISPOSAL | |
| Any acceptable process f | wn toxicity | |
| | I GOVERNMENT REGU | |
| REFERENCE TO APPLICABLE GOVERNMENT REGULATIONS FEDERAL Dot Hazard Class | None | REGULATION HIGHLIGHTS |
| STATE | n/a | - |
| OTHER | N/A | |
| PREPARED BY: R. S. Sternasty | COMPANY: | Brown-Bridge, K-C Corp. |
| ADDRESS: 517 E. Water St., Tr | oy. OH 45373 | TEL. NO.: (513) 339. 0561 |
| DATE PREPARED: 7/17/85 | LATEST REV | /ISION DATE: 7/17/85 |

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MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

| MANUFACTURER'S NAME Brown-Bridge, Paper | Sector, Kimberly-Clark Corp. | | .AR TELEPHON GENCY TELEPH | NE NO. (513) NONE NO.(513) | |
|---|------------------------------|-----------|------------------------------|-------------------------------|---|
| ADDRESS 518 East Water St., | Troy, Ohio 45373 | | | | |
| CHEMICAL NAME AND SYNONYMS | N/A | | CAS NO. UN NO. | N/A None | |
| TRADE NAME AND SYNONYMS | BBZ Clayfilled Splicing Tape | | | | |
| CHEMICAL FAMILY | | MULA | | | - |
| | N/A | N/. | Α | | |
| SHIPPING NAME: DOT: | IATA | ۸: | | | |
| Sealing Tape, Cloth | or Cloth and Paper Combined. | Summed in | n Pkgs. | Class 85 | |

II HAZARDOUS INGREDIENTS

| MATERIAL OR COMPONENT | CAS NO. UN NO. | * | HAZARD DATA |
|-----------------------|-------------------|-----|--------------------------|
| Cloth Tape Containing | | | |
| Clay and Starch Size | N/A | 76% | Considered Non-Hazardous |
| | | | |
| Animal Protein | | | |
| based Adhesive | N/A | 24% | Considered Non-Hazardous |
| | | | |

III PHYSICAL DATA

| BOILING POINT, 760 mm Hg | N/A | MELTING POINT N/A | |
|---------------------------------------|-------------------------------|---|---------|
| SPECIFIC GRAVITY (H ₂ O=1) | N/A | VAPOR PRESSURE (mm Hg at | C) N/A |
| VAPOR DENSITY (AIR=1) | N/A | SOLUBILITY IN H ₂ 0,% BY WT. | 34% |
| % VOLATILES BY VOL. | N/A | EVAPORATION RATE (| -1) N/A |
| APPEARANCE AND ODOR | Adhesive Coated Cloth Tape | pH (AS IS) pH AT DILUTION | N/A |

IV FIRE AND EXPLOSION DATA

| FLASH POINT (TEST METHOD) | >200°F | AUTO IGNITION TEMPERATURE | >200°F | FLAMMABLE LIMITS IN AIR, % BY VOL.: | LOWER: UPPER: | N/A |
|---|--------|------------------------------|---------|-------------------------------------|------------------|-----|
| EXTINGUISHING MEDIA | Class | s A, B, or C | Fire Ex | tinguisher | | |
| SPECIAL FIRE FIGHTING PROCEDURES | None | | | | | |
| UNUSUAL FIRE AND EXPLOSION HAZARD | None | | | | | |

V HEALTH HAZARD INFORMATION

| HEALTH HAZARU DATA | HAZARD CLASSIFICATION | BASIS FOR CLASSIFICATION | SOURCE |
|----------------------------------|--------------------------|--------------------------|----------|
| ROUTES OF EXPOSURE INHALATION | None | | |
| | | | |
| | | ; | |
| SKIN CONTACT | None | | |
| Skiil SSKYASI | | | |
| | | | |
| SKIN ABSORPTION | None | | |
| SKIN ABSORT TION | none | | |
| | | | |
| SVS CONTACT | v | | |
| EYE CONTACT | None | | |
| | • | · | |
| | • | | |
| INGESTION | None | | |
| | | | |
| | | | <u> </u> |
| ACUTE OVEREXPOSURE | N/A | | |
| CHRONIC OVEREXPOSURE | N / A | | |
| EMERGENCY AND FIRST AID | N/A PROCEDURES | | |
| EYES | N/A | | |
| SKIN | N/A | | |
| | | | |
| INHALATION | N/A | | |
| INGESTION | N/A | | |
| | | | |
| NOTES TO PHYSICIAN Adhesive cont | ains animal protein (col | lagen). | |
| | • | | |

VI REACTIVITY DATA

| CONDITIONS CONTRIB | UTING TO INSTABILITY | |
|----------------------|---------------------------------|-------------------------------|
| None | | |
| INCOMPATIBILITY IMA | TERIALS TO AVOID | |
| None | | * |
| HAZARDOUS DECOMPO | | |
| When burned, | , CO ₂ , CO, and pos | ssibly oxides of nitrogen. |
| | | |
| CONDITIONS CONTRIB | UTING TO HAZARDOUS POI | DLYMERIZATION |
| | - · · · · - | |
| None | | |
| | | |
| | VII | II SPILL OR LEAK PROCEDURES |
| STEPS TO BE TAKEN IF | MATERIAL IS RELEASED O | OR SPILLED N/A |
| | | |
| | | |
| · | <u></u> | |
| EUTRALIZING CHEMI | CALS N/A | |
| ASTE DISPOSAL METI | HOD OF SPILL OR LEAK | N/A |
| | | N/A |
| | | |
| | | |
| <u> </u> | VIII COD | TO A CONTRACTION INFORMATION |
| VENTILATION REQUIR | | PECIAL PROTECTION INFORMATION |
| PERTICATION REGULA | None | |
| | Mone | |
| | | |
| SPECIFIC PERSONAL PR | ROTECTIVE EQUIPMENT | |
| RESPIRATORY (SPECI | | None |
| | | |
| EYE | None | |
| | | |
| GLOVE\$ | None | |
| | | |
| OTHER CLOTHING AN | ID EQUIPMENT | |
| | None | |
| | | |
| | | |
| | | |
| | | |

| IX SPECIAL PRECAUTIONS | | | | | | |
|--|------------------------|---|--|--|--|--|
| LABELING INFORMATION AND WARNINGS | | DATA FOR HAZARDS INFORMATION LABEL Hazard Code 4 = Extreme 3 = High 2 = Moderate 1 = Slight 0 = Insignificant Mealth Special | | | | |
| OTHER HANDLING AND STORAGE REQUIREME Store between 50°F and 80° Rotate stock. | F and preferably betwe | een 30 and 50% R.H. | | | | |
| WASTE DISPOSAL METHOD | X DISPOSAL | | | | | |
| Any acceptable process for non-hazardous materials. AQUATIC TOXICITY (eg. 96 by TLM): No known toxicity | | | | | | |
| , | XI GOVERNMENT REGUL | ATIONS | | | | |
| REFERENCE TO APPLICABLE GOVERNMENT REGULATIONS FEDERAL DOT Hazard Class | None | EGULATION HIGHLIGHTS | | | | |
| STATE | N/A | | | | | |
| OTHER | N/A | | | | | |

 PREPARED BY:
 R. S. Sternasty
 COMPANY:
 Brown-Bridge
 K-C Corp.

 ADDRESS:
 518 E. Water St., Troy.
 OH 45373
 TEL. NO.: (513)339.0561

 DATE PREPARED:
 7/25/85
 LATEST REVISION DATE:
 7/25/85

| RETURN TO: KIMBERLY-CLARK | CORPORATION |
|------------------------------|-------------|
| STREET ADDRESS | |
| CITY . STATE . ZIP | |
| ATTN: | |
| | |

R. Sternasty

TELEPHONE NO. (513) 339-0561

| | I PRODUCT IDENT | TIFICATION | 4 | | |
|---|--------------------------------------|---------------------------------|---------------------|--|--|
| MANUFACTURER'S NAME Brown Kimbe | -Bridge Division erly-Clark Corp. | REGULAR EMERGEN | TELEPHO CY TELEP | NE NO. (513) 339-0561 HONE NO. (513) 339-0694 | |
| ADDRESS 517 East Water | Street, Troy, Ohio 453 | 373 | | | |
| TRADE NAME BBZ C | layfilled Splicing Tape | e | | | |
| SYNONYMS None | | | | | |
| | II HAZARDOUS IN | GREDIENT | rs | | |
| MATE | RIAL OR COMPONENT | | % | HAZARD DATA | |
| Cloth Tape containing | clay and starch size | | 76% | Considered Non- Hazardous | |
| Animal protein based adhesive | | | 24% | Considered Non- Hazardous | |
| | | | | | |
| | III PHYSICA | L DATA | <u> </u> | | |
| BOILING POINT, 760 MM HG | N/A | MELTING | POINT | N/A | |
| SPECIFIC GRAVITY (H ₂ O=1) N/A VAPOR PRESSURE N/A | | | | | |
| 3, 23, 10 3, 1, 1, 1, 1, 2, 3, 7, | | SOLUBILITY IN H2O, % BY WT. 34% | | | |
| | N/A N/A | SOLUBILI | TY IN H20 | ,% BY WT. 34% | |
| VAPOR DENSITY (AIR=1) % VOLATILES BY VOL. | | | | % BY WT 34% E (BUTYL ACETATE=1) N/A | |

| IV FIRE AND EXPLOSION DATA | | | | | | | |
|---|--------------------------|------------|--|---------|-------|--------------|--|
| FLASH POINT (TEST METHOD) | > 200°F | | AUTOIGNITION TEMPERATURE | > | 200°F | | |
| FLAMMABLE LIMITS IN AIR, % BY VOL. | | LOWER | N/A | UPPER | N/A | | |
| EXTINGUISHING MEDIA | Fire Extin | guisher | • | | | | |
| SPECIAL FIRE FIGHTING PROCEDURES | None | | | | | | |
| UNUSUAL FIRE AND EXPLOSION HAZARD | None | | | | | | |
| | V HEALTH HA | AZARD II | VFORMATIC | N | | | |
| HEALTH HAZARD DA | TA None | <u>.</u> | | | | | |
| ROUTES OF EXPOSUR | RE N/A | | AIR CONTAMINANT CONCENTRATIONS | | | | |
| INHALATION | | DATE | LOCATION | <u></u> | TLV | TEST RESULTS | |
| | | - | | | | | |
| SKIN CONTACT | | | | | | | |
| SKIN ABSORPT | ON | ļ | | _ | | | |
| EYE CONTACT | | | | | | | |
| INGESTION | | | | | | | |
| EFFECTS OF OVEREX | | | | · | · | | |
| CHRONIC OVER | EEXPOSURE N/A | | | | | | |
| EMERGENCY AND FIR | RST AID PROCEDURES N/A | | | | | | |
| EYES | | | | | | | |
| SKIN: | | | | _ | | | |
| INHALATION: | | | · · · · · · · · · · · · · · · · · · · | | | | |
| INGESTION: | | | ************************************** | | | | |
| NOTES TO PHYSICIAN | | | | | | | |
| Adhesive co | ntains animal protein (d | collagen). | | | | | |
| | | | | | | | |

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| | IX SPECIAL PRECAUTIONS |
|---------------------------|--|
| PRECAUTION STATEMENTS | ARY |
| | |
| None | |
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| | |
| | |
| | |
| | |
| | |
| | |
| OTHER HAND STORAGE REC | DLING AND |
| | e between 50°F and 80°F and preferably between 30 and 50% R.H. te stock. |
| | |
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| | |
| | |
| | |
| ···· | |
| PREPARED BY | Y: R. S. Sternasty TELEPHONE NO. (513) 339-0561 |
| ADDRESS: | n nit nitti |
| | Brown-Bridge Division, 517 East Water Street, Troy, Ohio |

DATE:

1/4/84

| RETURN TO: .\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | | | | |
|--|--|--|--|--|
| STREET ADDRESS | | | | |
| CITY - STATE - ZIP | | | | |
| ATTN: | | | | |
| | | | | |

| NAME | R. | s. | Sterr | nasty | | |
|-------------|----|----|-------|----------------|---|--|
| TELEPHONE N | Ю | | 513) | <u>339-056</u> | 1 | |

| | I PRODUCT IDEN | TIFICATION | | |
|---------------------------------------|---------------------|-------------|--------------------------|----------------------|
| MANUFACTURER'S NAME Brown-Bi | ridge Division | | TELEPHONE Y TELEPHO | |
| ADDRESS 517 East | Water Street, Troy | Ohio 45373 | | |
| TRADE NAME 60# Blea | iched Kraft, Strong | | | |
| SYNONYMS None | | | | |
| | II HAZARDOUS II | NGREDIENT | S | |
| MATERI | AL OR COMPONENT | | % | HAZARO DATA |
| None | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | III PHYSIC | AL DATA | | |
| BOILING POINT, 760 MM HG | N/A | MELTING P | OINT | N/A |
| SPECIFIC GRAVITY (H ₂ O=1) | N/A | VAPOR PRE | SSURE | N/A |
| VAPOR DENSITY (AIR=1) | N/A | SOLUBILIT | Y IN H ₂ O, % | BY WT. 21% |
| % VOLATILES BY VOL. | N/A | EVAPORAT | ION RATE (| BUTYL ACETATE=1) N/A |
| APPEARANCE AND ODOR | Adhesive c | oated paper | | |

| IV FIRE AND EXPLOSION DATA | | | | | | | |
|--|-------------------|------------------------------------|---------------------------------------|-------|---------|--------------|--|
| FLASH POINT (TEST METHOD) | ➤ 200°F | | AUTOIGNITION TEMPERATURE | | > 200°F | | |
| FLAMMABLE LIMITS IN AIR, % BY VOL. | | LOWER | N/A | UPPER | N/A | | |
| EXTINGUISHING Class A, B, or C Fire Extinguisher | | | | | | | |
| SPECIAL FIRE FIGHTING PROCEDURES | None | | | | | | |
| UNUSUAL FIRE AND EXPLOSION HAZARD | None | | | | | | |
| | V HEALTH HA | AZARD | NFORMATIC | N | | | |
| HEALTH HAZARD DA | TA None | | | | | | |
| ROUTES OF EXPOSUR | E N/A | AIR CONTAMINANT CONCENTRATIONS N/A | | | | | |
| . INHALATION_ | _ | DATE | LOCATION | | TLV | TEST RESULTS | |
| SKIN CONTACT | | | | | | | |
| SKIN ABSORPTI | ON | | | | | | |
| EYE CONTACT | | | | | | | |
| INGESTION | | | | | | | |
| EFFECTS OF OVEREX | | | | | | | |
| CHRONIC OVER | EXPOSURE N/A | | | | | | |
| EMERGENCY AND FIR | ST AID PROCEDURES | | · · · · · · · · · · · · · · · · · · · | | | | |
| EYES | N/A | | | ···· | | | |
| SKIN: | | | | | | | |
| INHALATION: | | _ | | | | | |
| INGESTION: | | | · | | | | |
| NOTES TO PHYSICIAN | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

| | VI REACTIVITY DATA |
|--|--|
| CONDITIONS | CONTRIBUTING TO INSTABILITY None |
| INCOMPATIBL | LITY |
| HAZARDOUS | DECOMPOSITION PRODUCTS |
| | None |
| CONDITIONS | CONTRIBUTING TO HAZARDOUS POLYMERIZATION None |
| | VII SPILL OR LEAK PROCEDURES |
| STEPS TO BE | TAKEN IF MATERIAL IS RELEASED OR SPILLED N/A |
| | |
| | |
| NEUTRALIZIN | G CHEMICALS N/A |
| | |
| WASTE DISPO | SAL METHOD |
| | SAL METHOD table process for non-hazardous materials. |
| | table process for non-hazardous materials. |
| Any accept | |
| Any accept | VIII SPECIAL PROTECTION INFORMATION |
| Any accept | VIII SPECIAL PROTECTION INFORMATION REQUIREMENTS |
| Any accept | VIII SPECIAL PROTECTION INFORMATION REQUIREMENTS |
| Any accept VENTILATION SPECIFIC PER | VIII SPECIAL PROTECTION INFORMATION REQUIREMENTS None |
| Any accept VENTILATION SPECIFIC PER | VIII SPECIAL PROTECTION INFORMATION REQUIREMENTS None SONAL PROTECTIVE EQUIPMENT None DRY (SPECIFY IN DETAIL) |
| Any accept VENTILATION SPECIFIC PERSONNEL RESPIRATO | VIII SPECIAL PROTECTION INFORMATION REQUIREMENTS None SONAL PROTECTIVE EQUIPMENT None DRY (SPECIFY IN DETAIL) None |
| Any accept VENTILATION SPECIFIC PER: RESPIRATO EYE GLOVES | VIII SPECIAL PROTECTION INFORMATION REQUIREMENTS None SONAL PROTECTIVE EQUIPMENT None DRY (SPECIFY IN DETAIL) |

| IX SPECIAL PRECAUTIONS |
|--|
| PRECAUTIONARY STATEMENTS |
| None |
| |
| |
| |
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| |
| |
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| |
| |
| |
| OTHER HANDLING AND STORAGE REQUIREMENTS |
| Store between 50F and 80F and preferably between 30 and 50% R.H. Rotate stock. |
| |
| |
| |
| |
| |
| |
| PREPARED BY: R. S. Sternasty TELEPHONE NO. (513) 339-0561 |
| |
| ADDRESS: Brown-Bridge Division,517 East Water Street, Troy, Ohio 45373 |
| DATE: 11/15/82 |

| RETURN TO: XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX | |
|---|--|
| STREET ADDRESS | |
| CITY - STATE - ZIP | |
| ATTN | |

NAME R. S. Sternasty

TELEPHONE NO. (513) 339-0561

| I PROD | UCT IDENTIFI | CATION | | | |
|---------------------------------------|--|--|---------------------|--|--|
| MANUFACTURER'S NAME Brown-Bridge Div | /ision | REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694 | | | |
| ADDRESS 517 East Water S | Street, Troy, Ohio | 0 45373 | | | |
| TRADE NAME 35# Bleached Kra | aft, Strong | · | | | |
| SYNONYMS None | | | | | |
| II HAZ | ARDOUS INGR | EDIENTS | | | |
| MATERIAL OR COMP | ONENT | % | HAZARD DATA | | |
| None | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | —————————————————————————————————————— | | | | |
| | II PHYSICAL D | ATA | | | |
| BOILING POINT, 760 MM HG | N/A | MELTING POINT | N/A | | |
| SPECIFIC GRAVITY (H ₂ O=1) | N/A | VAPOR PRESSURE | N/A | | |
| VAPOR DENSITY (AIR=1) | N/A | SOLUBILITY IN H2O, % | 32 WT. 32% | | |
| % VOLATILES BY VOL. | N/A | EVAPORATION RATE (B | UTYL ACETATE=1) N/A | | |
| APPEARANCE AND ODOR | Adhesive coated | l paper | | | |

| RETURN TO: KINGSORKXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX | |
|---|--|
| STREET ADDRESS | |
| CITY - STATE - ZIP | |
| ATTN: | |

| NAME R. | Sternasty | |
|---------------|----------------|--|
| TELEPHONE NO. | (513) 339-0561 | |

| 1 | PRODUCT IDEN | TIFICATION | 1 | | | |
|---|---------------------|---------------------|---|-------------|--|--|
| MANUFACTURER'S NAME Brown-Bri | dge Division | REGULAR EMERGENO | REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694 | | | |
| ADDRESS 517 East | Water Street, Troy, | Ohio 45373 | | | | |
| TRADE NAME 50# Super | Pancake | | | | | |
| SYNONYMS None | | | | | | |
| | I HAZARDOUS II | NGREDIENT | 'S | | | |
| MATERIAL | OR COMPONENT | | 3% | HAZARD DATA | | |
| None | | | | | | |
| | | | | | | |
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| | | | | | | |
| | | | | | | |
| | | | | | | |
| | III PHYSIC | AL DATA | | | | |
| BOILING POINT, 760 MM HG | N/A | MELTING F | POINT | N/A | | |
| SPECIFIC GRAVITY (H20=1) | N/A | VAPOR PRI | ESSURE | N/A | | |
| VAPOR DENSITY (AIR=1) | N/A | SOLUBILIT | Y IN H2O, % | | | |
| % VOLATILES BY VOL N/A EVAPORATION RATE (BUTYL ACETATE=1) N | | | | | | |
| APPEARANCE AND ODOR | | oated paper | | | | |

| RETURN TO: *********************************** | XIONX |
|---|--|
| STREET ADDRESS | |
| CITY - STATE - ZIP | ·. · · · · · · · · · · · · · · · · · · |
| ATTN | |

NAME R. Sternasty TELEPHONE NO. (513) 339-0561

| i PR | ODUCT IDENTIF | CATION | | | | | |
|---|--|------------|------------------------|--------------|--|--|--|
| MANUFACTURER'S NAME Brown-Bridge | REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694 | | | | | | |
| ADDRESS 517 East Water Street, Troy, Ohio 45373 | | | | | | | |
| TRADE NAME 50# English Finish Pancake | | | | | | | |
| SYNONYMS None | | | | | | | |
| II H | AZARDOUS INGF | REDIENTS | S | | | | |
| MATERIAL OR | COMPONENT | | % | HAZARD DATA | | | |
| None | | | | | | | |
| | | | | | | | |
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| | | | | | | | |
| | III PHYSICAL I | DATA | | | | | |
| BOILING POINT, 760 MM HG | N/A | MELTING PO | INT | N/A | | | |
| SPECIFIC GRAVITY (H2O=1) | N/A | VAPOR PRES | SURE | N/A | | | |
| VAPOR DENSITY (AIR=1) | N/A | SOLUBILITY | IN H ₂ O. 9 | 6 BY WT. 17% | | | |
| % VOLATILES BY VOL. N/A EVAPORATION RATE (BUTYL ACETATE=1) N/ | | | | | | | |
| APPEARANCE AND ODOR | Adhesive coate | ed paper | | | | | |

| RETURN TO: *********************************** | |
|---|--|
| STREET ADDRESS | |
| CITY - STATE - ZIP | |
| ATTN: | |
| | |

| NAME | R. | s. | Ste | rnasty | | |
|-------------|-----|----|------|---------|---|------|
| TELEPHONE N | ١٥. | | 513) | 339-056 | 1 | |

| 1 | PRODUCT IDEN | TIFICATION | | | | |
|--|--------------------|-----------------------|--|--------------|--|--|
| MANUFACTURER'S NAME Brown-Bri | dge Division | REGULAR T EMERGENC | REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694 | | | |
| ADDRESS 517 East | Water Street, Troy | , Ohio 45373 | | | | |
| TRADE NAME 17# Quick | ett B/F Pancake | | <u> </u> | | | |
| SYNONYMS None | | | | | | |
| 11 | HAZARDOUS II | NGREDIENT | S | | | |
| MATERIAL | OR COMPUNENT | _ | % | HAZARD DATA | | |
| None | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | III PHYSIC | AL DATA | | | | |
| BOILING POINT, 760 MM HG | N/A | MELTING P | DINT | N/A | | |
| SPECIFIC GRAVITY (H20=1) | N/A | VAPOR PRE | SSURE | N/A | | |
| VAPOR DENSITY (AIR=1) | N/A | SOLUBILITY | / IN H ₂ O, % | 6 BY WT. 19% | | |
| % VOLATILES BY VOL. N/A EVAPORATION RATE (BUTYL ACETATE=1) | | | | | | |
| APPEARANCE AND ODOR | | coated paper | | N/A | | |

| RETURN TO: EXAMBLE FOLXX-COLXA FOR ECOFF REIRAL X 100 MK |
|---|
| STREET ADDRESS |
| CITY - STATE - ZIP |
| ATTN: |

| NAME | R. S. Sternasty | |
|--------------|-----------------|---|
| TELEPHONE NO | (513) 339-056 | L |

| I PRODUCT IDENTIFICATION | | | |
|----------------------------|----------------------------|--|------------------------------------|
| MANUFACTURER'S NAME Brown- | Bridge Division | REGULAR TELEPHONE NO. EMERGENCY TELEPHONE N | o (513) 339-0561 (513) 339-0694 |
| ADDRESS 517 Ea | st Water Street, Troy, Ohi | .o 45373 | |
| TRADE NAME Climat | ized Sheet Stock with Remo | vable Pressure Sensi | tive Adhesive |
| SYNONYMS None | | | |
| | II HAZARDOUS INGR | EDIENTS | |
| MATER | IAL OR COMPONENT | 36 | HAZARD DATA |
| None | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| III PHYSICAL DATA | | | |
| BOILING POINT, 760 MM HG | N/A | MELTING POINT N/ | 4 |
| SPECIFIC GRAVITY (H20=1) | N/A | VAPOR PRESSURE N/ | 1 |
| VAPOR DENSITY (AIR=1) | N/A | SOLUBILITY IN H2O, % BY W | T. <1% |
| % VOLATILES BY VOL. | N/A | EVAPORATION RATE (BUTY | LACETATE=1) N/A |
| APPEARANCE AND ODOR | Adhesive coated paper w | ith liner, slight ac | rylic odor. |

| OF THE STANDARD CONTRACTOR OF THE STANDARD CONTR | |
|--|----------|
| STREET ADDRESS | <u>.</u> |
| CITY . STATE - ZIP | |
| ATTN: | |

| NAMER | Sternasty | | |
|--------------|-------------|----------|--|
| | · · · · · · | | |
| TELEBUONE NO | (513) | 339-0561 | |

| I PRODUCT | IDENTIFICATION | | | |
|---|--|--|--|--|
| MANUFACTURER'S NAME Brown-Bridge Division | ridge Division REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694 | | | |
| ADDRESS 517 East Water Stree | , Troy, Ohio 45373 | | | |
| TRADE NAME 60# C1S Litho Pancak | | | | |
| SYNONYMS None | | | | |
| II HAZARD | OUS INGREDIENTS | | | |
| MATERIAL OR COMPONENT | % HAZARD DATA | | | |
| None | | | | |
| | | | | |
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| | | | | |
| III PI | YSICAL DATA | | | |
| BOILING POINT, 760 MM HG N/A | MELTING POINT N/A | | | |
| SPECIFIC GRAVITY (H20=1) N/A | VAPOR PRESSURE N/A | | | |
| VAPOR DENSITY (AIR=1) N/A | SOLUBILITY IN H2O, % BY WT. 14% | | | |
| % VOLATILES BY VOL. N/A | EVAPORATION RATE (BUTYL ACETATE=1) N/A | | | |
| APPEARANCE AND ODOR Adi | esive coated paper | | | |

| RETURN TO: XILIMBERIX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX |
|--|
| STREET ADDRESS |
| CITY - STATE - ZIP |
| ATTN: |

NAME R. S. Sternasty

TELEPHONE NO. (513) 339-0561

| I PRODUCT IDENTIFICATION | | | |
|---|------------------------------------|--------------------|----------------------|
| MANUEACTIDED'S NAME B B 11 B1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | | | NE NO COLO |
| ADDRESS 517 East Wa | ter Street, Troy, | Ohio 45373 | <u></u> |
| TRADE NAME 60# Kromeko | te Pancake | | |
| SYNONYMS None | | | |
| | HAZARDOUS IN | GREDIENTS | |
| MATERIAL O | R COMPONENT | % | HAZARD DATA |
| None | | | |
| | | | |
| | | | |
| | - | | |
| | | | |
| | | | |
| | III PHYSICA | L DATA | |
| BOILING POINT, 760 MM HG | N/A | MELTING POINT | N/A |
| SPECIFIC GRAVITY (H2O=1) | N/A | VAPOR PRESSURE | N/A |
| VAPOR DENSITY (AIR=1) | N/A SOLUBILITY IN H2O, % BY WT 14% | | |
| % VOLATILES BY VOL | N/A | EVAPORATION RATE (| BUTYL ACETATE=1) N/A |
| APPEARANCE AND ODOR | Adhesive coa | ated paper. | |

| RETURN TO: YKNOGROCKARKOKKORROTATION | |
|--------------------------------------|--|
| STREET ADDRESS | |
| CITY - STATE - ZIP | |
| ATTN: | |
| | |

NAME R. Sternasty TELEPHONE NO. (513) 339-0561

| I PRODUCT IDENTIFICATION | | | | |
|---------------------------------------|---|-------------|--------------------------|----------------------|
| MANUFACTURER'S NAME Brown-Bridge | ge Division REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694 | | | |
| ADDRESS 517 East Wat | er Street, Troy, | Ohio 45373 | | |
| TRADE NAME 50# Blue Med | ium Pancake | | | |
| SYNONYMS None | | | | |
| II H | AZARDOUS IN | NGREDIENT | S | |
| MATERIAL OR | COMPONENT | | % | HAZARD DATA |
| None | | | | |
| | | | | |
| | | - ; | | |
| | | | | |
| | | | | |
| | | | | |
| | III PHYSICA | AL DATA | | |
| BOILING POINT, 760 MM HG | N/A | MELTING P | OINT | N/A |
| SPECIFIC GRAVITY (H ₂ O=1) | N/A | VAPOR PRE | SSURE | N/A |
| VAPOR DENSITY (AIR=1) | N/A | SOLUBILIT | Y IN H ₂ O, % | BY WT. 17% |
| % VOLATILES BY VOL. | N/A_ | EVAPORAT | ION RATE | BUTYL ACETATE=1) N/A |
| APPEARANCE AND ODOR | Adhesive c | oated paper | | |

| RETURN TO: KIMBORKXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX | |
|--|---|
| STREET ADDRESS | |
| CITY - STATE - ZIP | |
| ATTN: | |
| | _ |

| NAME R. | Sternasty |
|-------------|-------------------|
| TELEPHONE N | 0. (513) 339-0561 |

| I PRODUCT IDENTIFICATION | | | | | | |
|--|-----------------|-------------------------|-----------------------|-----------------------|--|--|
| MANUFACTURER'S NAME Brown-Bridge Divis | ion | REGULAR TE EMERGENCY | | | | |
| ADDRESS 517 East Water Str | eet, Troy, Ohio | 45373 | | | | |
| TRADE NAME Grey Holland, Strong | ng Gummed | | | | | |
| SYNONYMS None | | | | | | |
| II HAZAR | DOUS INGR | EDIENTS | } | | | |
| MATERIAL OR COMPONE | ENT | | % | HAZARD DATA | | |
| None | | | | | | |
| | | | | | | |
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| | | | | | | |
| | | | | | | |
| | | | | | | |
| 111 | PHYSICAL D | ATA | | | | |
| BOILING POINT, 760 MM HG | N/A | MELTING PO | NT | N/A | | |
| SPECIFIC GRAVITY (H2O=1) | N/A | VAPOR PRES | SURE | N/A | | |
| VAPOR DENSITY (AIR=1) | N/A | SOLUBILITY | N H ₂ O, 9 | 6 BY WT. 21% | | |
| % VOLATILES BY VOL. | N/A | EVAPORATIO | N RATE | (BUTYL ACETATE=1) N/A | | |
| APPEARANCE AND ODOR | Adhesive coated | cloth. | | | | |

| IX SPECIAL PRECAUTIONS |
|--|
| PRECAUTIONARY STATEMENTS |
| Contains Animal Protien |
| • |
| |
| |
| |
| |
| |
| |
| OTHER HANDLING AND STORAGE REQUIREMENTS |
| Store between 50F and 80F and preferably between 30 and 50% R.H. Rotate stock. |
| |
| |
| |
| |
| PREPARED BY: R. S. Sternasty TELEPHONE NO. (513) 339-0561 |
| ADDRESS: Brown-Bridge Division,517 East Water Street, Troy, Ohio 45373 |
| _DATE: 11/15/82 |

| RETURN TO: *********************************** |
|---|
| STREET ADDRESS |
| CITY - STATE - ZIP |
| ATTN: |

NAME R. S. Sternasty

TELEPHONE NO. ___(513)_ 339-0561_

| | I PRODUCT IDEN | TIFICATION | · | | | | |
|---|------------------------|--|-----------|-------------|--|--|--|
| MANUFACTURER'S NAME Brown-Bridge Division REGULAR TELEPHONE NO. (513) 339-05 EMERGENCY TELEPHONE NO. (513) 339-06 | | | | | | | |
| ADDRESS 517 Ea | st Water Street, Troy, | Ohio 45373 | <u></u> . | | | | |
| TRADE NAME White | Cambric, Strong Gummed | | | | | | |
| SYNONYMS None | | | | | | | |
| | II HAZARDOUS IN | IGREDIENT | S | | | | |
| MATER | RIAL OR COMPONENT | | % | HAZARD DATA | | | |
| None | | | | | | | |
| | | | | | | | |
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| | | | | | | | |
| | | | | | | | |
| | III PHYSICA | L DATA | | | | | |
| BOILING POINT, 760 MM HG | N/A | MELTING P | OINT | N/A | | | |
| SPECIFIC GRAVITY (H2O=1) | N/A | VAPOR PRE | SSURE | N/A | | | |
| VAPOR DENSITY (AIR=1) | | | | | | | |
| % VOLATILES BY VOL. | N/A | N/A EVAPORATION RATE (BUTYL ACETATE=1) N/A | | | | | |
| APPEARANCE AND ODOR | Adhesive co | oated cloth | | | | | |

| IX SPECIAL PRECAUTIONS |
|--|
| PRECAUTIONARY STATEMENTS |
| Contains Animal Protein |
| • |
| |
| |
| |
| |
| |
| |
| |
| |
| OTHER HANDLING AND STORAGE REQUIREMENTS |
| Store between 50F and 80F and preferably between 30 and 50% R.H. Rotate stock. |
| |
| |
| |
| |
| |
| |
| PREPARED BY: R. S. Sternasty TELEPHONE NO. (513) 339-0561 |
| |
| ADDRESS: Brown-Bridge Division,517 East Water Street, Troy, Ohio 45373 |
| DATE: 11/15/82 |

| | | | | | | ··· | | | |
|------------------------|------------------|--|------------------------|---------------------|---------------------------|------------------|------------------|--------------|---------------------------------------|
| section 1 nam | <u></u> | _ | | | | | | | |
| manufacturer's n | | | | | | 1000 | hone no. (24 hou | urs) | |
| (a) Brown- | -Bridge | <u>, A</u> | Kimberly-Cl | ark Comp | any | N/ | | | · · · · · · · · · · · · · · · · · · · |
| street address | | _ | | | for latest data, cor | | | | |
| (c) 518 E. | . Water | Str | eet | | suit manufacturer | 001 | ober 13 | , 198 | 31 |
| city, state, zip coo | de | | | | signature of certify | ing company offi | cia) | _ | |
| Troy. | Ohio 4 | 5373 | | | Cillian | <u>ed 5. 3</u> | amas | رح | |
| chemical name, t | rade name, and | synony | ms | | | | | | |
| (g) Clayfi | illed components | loth | splicing t | ape, gra | des BBL, BBM | BBZ | | | <u> </u> |
| Sta | arch siz | zed | cotton clot | h, | | | | | |
| (h) Ani | imal pro | otei | n remoisten | able adh | esive | | | | |
| , , | | | | | | | | | |
| | | | | | | | | | |
| | | _ | | | | | | T . | TLV |
| section 2 ing | redients | | | | | | | % | (units) |
| | | | | | · · · ·, · · · | | | * | |
| Cott | on Clot | th | | | | | | 65- | |
| | | | | | | | | 76 | |
| | | | | | | | | - i | |
| Adhe | esive | | | | | | | 24- | |
| | | | | | | | | 35 | |
| | | | _ | | | | | 1 ! | |
| *De | pending | g on | grade " | ot specification va | liues) | | | | |
| section 3 phy | sical data | | | | | | | | |
| 2 boiling point | | | N/A | | 6 specific gravity | N/A | | | |
| 3 vapor pressu | | 10° c\ | | - " | 7 % volatile by volume | | | - | |
| 4 vapor density | | 0 07 | N/A | | 8 color and odor | N/A | | | |
| | | | N/A | | | | <u>o Brown</u> | | ************ |
| 5 solubility in w | | | 30-50% | | 9 physical state | Cloth | Tape | | |
| section 4 fire a | | nezer | | - | 11 flammable limits (STP) | | | | |
| | 00°F | | | | | • | N | / A | |
| 12 | .00 г | | | | LF.L. N/A | | U.F.L. N | / A. | |
| extinguishir media: | | fog | roam | alcohol foam | ▼ co, [| dry chemical | Other | | |
| 13 special fire figh | iting protective | equipm | ent | - | | | | | |
| Non | e requi | red | | | | | | | |
| | • | | | | | | | | |
| | | | | | | | | | |
| 14 unusual fire ani | d explosion haz | ards | | | | | | | |
| Non | e | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| section 5 read | tivity data | | | | | | | | |
| 15 | normal | | 16 conditions to avoid | | | | | | |
| atability. | conditions | X | Generally | consider | red unreacti | ve | | | |
| stability | fire | 1 | | | | | | | |
| | conditions | ĺ | Flammable | | | | | | |
| 17 | · — — | | | | | oxidizing | | | |
| incompat- ibility | | water | acid | ∐ base | corrosive { | material | | | |
| (materials to | | other | Above read | atante m | ould cause d | e a z a da t i | | | |
| avoid) | <u> </u> | | TOOLE TEST | | Julu Cause U | -51 auail | | | |
| 18-hazardous dec | | | | | | | | | |
| | e known | <u>. </u> | | | | | | | |
| 19 | may | | 20 conditions to avoid | | | | | | |
| hazardous | occur | | | | | | | | |
| polymeriza- tion | will not | v | | | | | | · ··- | |
| | occur | X | | | | | | | |

N/A Not Applicable

material safety data sheet

| manufacturer sin | | | | | | emergency | hone no (24 ho | urs) | |
|--------------------------------|------------------------|--------|---------------------------------------|---------------------|---|---------------------------------------|----------------|--------------|-------------|
| | | Α . | Vimbori: C1 | ark Comp | ລການ | (b) N/ | | | |
| street address | -prrage | , A | Kimberly-Cl. | ark comb | | date this form | | , | |
| (c) 518 E. | Water | C+- | 00 t | | for latest data, con suit manufacturer | 1- | ober 13 | 1 1 9 8 | 1 |
| O TO E | | SLI | ee L | | signature of certifyi | , 000 | | 1, 190 |) |
| (6) | | | | | (1) Kill m | A . A | / | \leftarrow | |
| Troy, | Ohio 4 | 5373 | 0.5 | | - Killa M | a 5, 0 | Charles 2 | | |
| | | | | | 1 DDI DDM | DD7 | | | |
| Clay13 | LITED C. | loth | splicing to | ape, grad | des BBL, BBM | <u>, 882</u> | | | |
| | | | cotton clot | | | | | | |
| | | | n remoisten | | esive | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | TLV |
| section 2 ing | redients | | | | | | | % i | (units) |
| | | | | | | | | * | |
| Cott | on Clot | th | | | | | | 65- | |
| | | | | | | | | 76 | |
| ۸ ۵۴ ۵ | sive | | | | | | | 24- | |
| Aune | SIVE | | | | | | | , | |
| | | | | | | | | 35 | |
| 'nDe | pending | z on | orade | | | | | | |
| | | | 6144C (n | ot specification va | liues) | | | | |
| section 3 phy | | | | | | · · · · · · · · · · · · · · · · · · · | ·· | | |
| 2 boiling point | | | _N/A | | ⁶ specific gravity | N/A | | | |
| | re (mmHgat 2 | (0°c) | _N/A | | 7 % volatile by volume | N/A | | | |
| 4 vapor density | | | <u>N/A</u> | | 8 colorand odor | Tan t | o Brown | | |
| 5 solubility in v | | | 30-50% | <u></u> i | 9 physical state | <u> Cloth</u> | Tape | | |
| section 4 fire | | hazard | data | | | | | | |
| 10 flash point (and | method used) 100° F | | | | 11 flammable limits (STP) | - | 1 | | |
| | .00 F | | | | L.F.L. N/A | | U.F.L. N | /A | |
| extinguishii | ng 🏻 | water | T foam | alcohol foam | ∑ co₂ | dry chemical | other | | |
| media: 13 special fire figh | | iog | | 104111 | | — chemicar | | | |
| | • | | nt | | | | | | |
| Non | <u>e requi</u> | red | | | | | | | |
| | | | | | | | | | |
| 14 unusual fire an | d explosion haz | ards | | | | | | | |
| Non | ے ا | | | | | | | | |
| 11011 | | | | | | | | | |
| | | | | | | | | | |
| section 5 read | tivity data | | | | | | | <u> </u> | |
| 15 | normal | | 16 conditions to avoid | | | | | | |
| | conditions | X | Generally | consider | red unreactiv | ve | | | |
| stability | fire | + + | <u></u> <u></u> <u>-</u> | | | | | | |
| | conditions | i | Flammable | | | | | | |
| 17 | · | | | | | oxidizing | | <u></u> | |
| incompat- ibility | لسا | water | acid | base | corrosive | material | | | |
| (materials to | | | | | | | | | |
| avoid) | | other | Above read | ctants wo | ould cause de | egradati | on. | | |
| 18-hazardous dec | composition pro | oducts | · · · · · · · · · · · · · · · · · · · | | · ····· | | | | |
| Non | e known | ì. | | | | | | | |
| 19 | may | | 20 conditions to avoid | | | | | | |
| hazardous | occur | | | | | | | | |
| polymeriza- tion | will not | | · · · · · · · · · · · · · · · · · · · | | | | | | |
| | occur | X | | | | | | | |

N/A Not Applicable

| RETURN TO: KIMBERLY-CLARK CORPORATION | | | | | | |
|---------------------------------------|--|--|--|--|--|--|
| STREET ADDRESS | | | | | | |
| CITY - STATE - ZIP | | | | | | |
| ATTN: | | | | | | |

NAME R. S. Sternasty

TELEPHONE NO. (513) 339-0561

| | PRODUCTIDENTI | -ICATION | | | | |
|--------------------------|---|-----------------------------|--------------------|--|--|--|
| MANUFACTURER'S NAME | Brown-Bridge Division Kimberly-Clark Corp. | REGULAR TE EMERGENCY | LEPHO TELEP | NE NO. (513) 339-0561 HONE NO. (513) 339-0561 | | |
| ADDRESS | 518 East Water St., Troy, Ohio | 45373 | | | | |
| TRADE NAME | 60# CIS Litho with Pancake® Ac | hesive | | | | |
| SYNONYMS | | | | | | |
| | II HAZARDOUS ING | REDIENTS | | | | |
| | MATERIAL OR COMPONENT | | % | HAZARD DATA | | |
| 60# C1S L | itho | | 86 | Not Considered Hazardous | | |
| Pancake® | 14 | Not Considered Hazardous | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| -, | III PHYSICAL | DATA | | | | |
| BOILING POINT, 760 MM HG | N/A | MELTING POI | NT | N/A | | |
| SPECIFIC GRAVITY (H2O=1) | N/A | VAPOR PRESS | URE | N/A | | |
| VAPOR DENSITY (AIR=1) | N/A | SOLUBILITY | N H ₂ O | , % BY WT. 13% | | |
| % VOLATILES BY VOL. | | | | | | |
| APPEARANCE AND ODOR | Adhesive Coated Paper Odor: None to slight p | etroleum | | | | |

| | IV FIRE AN | D EXPL | OSION DATA | ١ | | |
|---|-----------------------|-----------|-----------------------------|------------|--------------|---------------------------------------|
| FLASH POINT (TEST METHOD) | N/A | | AUTOIGNITION TEMPERATURE | 4 | 50 °F | |
| FLAMMABLE LIMITS | IN AIR, % BY VOL. N/A | LOWER | | UPPER | l | |
| EXTINGUISHING MEDIA | Any fire extinguisher | , or wate | r. | | | |
| SPECIAL FIRE FIGHTING PROCEDURES | None | | | | | |
| UNUSUAL FIRE AND EXPLOSION HAZARD | None | | | | | |
| | V HEALTH H | AZARD | INFORMATIC | N | | |
| HEALTH HAZARD DA | Not Considered H | azardous | | | | |
| ROUTES OF EXPOSUR | RE | | AIR CONTAMINAN | IT CONCENT | [RATIO | NS |
| INHALATION | | DATE | LOCATION | | TLV | TEST RESULTS |
| SKIN CONTACT | - | | | | | |
| | | + | | | | |
| SKIN ABSORPT | ION | 1 | | | | |
| EYE CONTACT | | | | | | |
| INGESTION | | | | | | |
| EFFECTS OF OVEREX ACUTE OVEREX | | | | | | |
| CHRONIC OVER | REXPOSURE | | | | | - |
| EMERGENCY AND FIF | RST AID PROCEDURES | | <u> </u> | | | |
| EYES | | | | | | |
| SKIN: | | | | | | · · · · · · · · · · · · · · · · · · · |
| INHALATION: | | | | | | |
| INGESTION: | | | | | | |
| NOTES TO PHYSICIAN | I | | | | | |
| | | | | | | |

| None HAZARDOUS DECOMPOSITION PRODUCTS Carbon Monoxide Possible CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION None VII SPILL OR LEAK PROCEDURES STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED None NEUTRALIZING CHEMICALS WASTE DISPOSAL METHOD Same as for Paper VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None required SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None required GLOVES None Required GLOVES OTHER CLOTHING AND EQUIPMENT | | VI REACTIVITY DATA |
|---|---------------------|-------------------------------------|
| INCOMPATIBILITY None HAZARDOUS DECOMPOSITION PRODUCTS Carbon Monoxide Possible CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION None VII SPILL OR LEAK PROCEDURES STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED None NEUTRALIZING CHEMICALS WASTE DISPOSAL METHOD Same as for Paper VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None required SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None required RESPIRATORY ISPECIFY IN DETAIL! EVE None required GLOVES None Required OTHER CLOTHING AND EQUIPMENT | CONDITIONS CONTRI | BUTING TO INSTABILITY |
| None HAZARDOUS DECOMPOSITION PRODUCTS Carbon Monoxide Possible CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION None VII SPILL OR LEAK PROCEDURES STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED None NEUTRALIZING CHEMICALS WASTE DISPOSAL METHOD Same as for Paper VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None required SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None required GLOVES None Required GLOVES OTHER CLOTHING AND EQUIPMENT | None | |
| None HAZARDOUS DECOMPOSITION PRODUCTS Carbon Monoxide Possible CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION None VII SPILL OR LEAK PROCEDURES STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED None NEUTRALIZING CHEMICALS WASTE DISPOSAL METHOD Same as for Paper VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None required SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None required RESPIRATORY ISPECIFY IN DETAIL) EVE None required GLOVES None Required OTHER CLOTHING AND EQUIPMENT | INCOMPATIBILITY | • |
| Carbon Monoxide Possible CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION None VII SPILL OR LEAK PROCEDURES STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED None NEUTRALIZING CHEMICALS WASTE DISPOSAL METHOD Same as for Paper VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None required SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None required EYE None required GLOVES None Required OTHER CLOTHING AND EQUIPMENT | None | |
| CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION None VII SPILL OR LEAK PROCEDURES STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED None NEUTRALIZING CHEMICALS WASTE DISPOSAL METHOD Same as for Paper VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None required SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None required RESPIRATORY (SPECIFY IN DETAIL) EYE None required GLOVES None Required OTHER CLOTHING AND EQUIPMENT | HAZARDOUS DECOMP | POSITION PRODUCTS |
| VII SPILL OR LEAK PROCEDURES STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED None NEUTRALIZING CHEMICALS WASTE DISPOSAL METHOD Same as for Paper VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None required SPECIFIC PERSONAL PROTECTIVE EQUIPMENT RESPIRATORY (SPECIFY IN DETAIL) EYE None required GLOVES None Required OTHER CLOTHING AND EQUIPMENT | Carbo | on Monoxide Possible |
| VII SPILL OR LEAK PROCEDURES STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED None NEUTRALIZING CHEMICALS WASTE DISPOSAL METHOD Same as for Paper VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None required SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None required RESPIRATORY (SPECIFY IN DETAIL) EYE None required GLOVES None Required OTHER CLOTHING AND EQUIPMENT | CONDITIONS CONTRI | BUTING TO HAZARDOUS POLYMERIZATION |
| None None NEUTRALIZING CHEMICALS WASTE DISPOSAL METHOD Same as for Paper VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None required SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None required RESPIRATORY (SPECIFY IN DETAIL) EYE None required GLOVES None Required OTHER CLOTHING AND EQUIPMENT | None | |
| None NEUTRALIZING CHEMICALS WASTE DISPOSAL METHOD Same as for Paper VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None required SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None required RESPIRATORY (SPECIFY IN DETAIL) EYE None required GLOVES None Required OTHER CLOTHING AND EQUIPMENT | | VII SPILL OR LEAK PROCEDURES |
| WASTE DISPOSAL METHOD Same as for Paper VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None required SPECIFIC PERSONAL PROTECTIVE EQUIPMENT RESPIRATORY (SPECIFY IN DETAIL) EYE None required GLOVES None Required OTHER CLOTHING AND EQUIPMENT | STEPS TO BE TAKEN I | F MATERIAL IS RELEASED OR SPILLED |
| VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None required SPECIFIC PERSONAL PROTECTIVE EQUIPMENT RESPIRATORY (SPECIFY IN DETAIL) EYE None required GLOVES None Required OTHER CLOTHING AND EQUIPMENT | None | |
| VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None required SPECIFIC PERSONAL PROTECTIVE EQUIPMENT RESPIRATORY (SPECIFY IN DETAIL) EYE None required GLOVES None Required OTHER CLOTHING AND EQUIPMENT | NEUTRALIZING CHEM | AICALS |
| VIII SPECIAL PROTECTION INFORMATION VENTILATION REQUIREMENTS None required SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None required RESPIRATORY (SPECIFY IN DETAIL) EYE None required GLOVES None Required OTHER CLOTHING AND EQUIPMENT | WASTE DISPOSAL MET | THOD |
| None required SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None required RESPIRATORY (SPECIFY IN DETAIL) EYE None required GLOVES None Required OTHER CLOTHING AND EQUIPMENT | Same | as for Paper |
| None required SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None required RESPIRATORY (SPECIFY IN DETAIL) EYE None required GLOVES None Required OTHER CLOTHING AND EQUIPMENT | | VIII SPECIAL PROTECTION INFORMATION |
| SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None required EYE None required GLOVES None Required OTHER CLOTHING AND EQUIPMENT | VENTILATION REQUI | REMENTS |
| None required EYE None required GLOVES None Required OTHER CLOTHING AND EQUIPMENT | None | required |
| SLOVES None Required OTHER CLOTHING AND EQUIPMENT | SPECIFIC PERSONAL F | PROTECTIVE EQUIPMENT |
| GLOVES None Required OTHER CLOTHING AND EQUIPMENT | RESPIRATORY (SPI | None required ECIFYIN DETAIL) |
| OTHER CLOTHING AND EQUIPMENT | EYE | None required |
| | GLOVES | None Required |
| None required | OTHER CLOTHING | AND EQUIPMENT |
| 1 | | None required |
| | | |

| • | IX SPECIAL | PRECAUTI | ONS | - |
|--|----------------|----------|--------------|---------------------------------------|
| PRECAUTIONARY STATEMENTS | | | | |
| | | | | |
| None | | | | |
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| OTHER HANDLING AND | | | | |
| OTHER HANDLING AND STORAGE REQUIREMENTS | | | | |
| None | | | | |
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| | | | | · · · · · · · · · · · · · · · · · · · |
| PREPARED BY: R. S. Sternasty | | | TELEPHONE NO | (513) 339-0561 |
| A. S. Sternasty | | | | (, |
| ADDRESS: 518 E. Water St. | , Troy, Ohio 4 | 373 | | |

4/3/85

DATE:

| RETURN TO: NEWBERGYNTKANHOURRERORANNON | |
|--|--|
| STREET ADDRESS | |
| CITY - STATE - ZIP | |
| ATTN. | |
| STATE - ZIP | |

| NAME | R. | s. | Stern | nasty | |
|-------------|-----|----|-------|----------|--|
| TELEPHONE ! | NO. | 1 | (513) | 339-0561 | |

| 1 | PRODUCT IDEN | NTIFICATION | 1 | | | | |
|---------------------------------------|-----------------------|---|--|--|--|-------------|--|
| MANUFACTURER'S NAME Brown-Bri | | REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694 | | | | | |
| ADDRESS 517 East | Water Street, Troy | , Ohio 45373 | | | | | |
| TRADE NAME 60# Bleac | hed Kraft, Strong | | | | | | |
| SYNONYMS None | | | | | | | |
| [1 | HAZARDOUS I | NGREDIENT | 'S | | | | |
| MATERIAL | | % HAZARD DATA | | | | | |
| None | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | III PHYSIC | AL DATA | | | | | |
| BOILING POINT, 760 MM HG | N/A | MELTING F | MELTING POINT N/A | | | | |
| SPECIFIC GRAVITY (H ₂ O=1) | N/A | VAPOR PRI | VAPOR PRESSURE N/A | | | | |
| VAPOR DENSITY (AIR=1) | N/A | SOLUBILIT | SOLUBILITY IN H2O, % BY WT. 21% | | | | |
| % VOLATILES BY VOL. | N/A | EVAPORAT | EVAPORATION RATE (BUTYL ACETATE=1) N/A | | | | |
| APPEARANCE AND ODOR | Adhesive coated paper | | | | | | |

| | IV FIRE AN | D EXPL | OSION DATA | \ | | |
|---|--------------------|-----------|-----------------------------|---------------------------------------|---------------------------------------|--------------|
| FLASH POINT (TEST METHOD) | > 200°F | | AUTOIGNITION TEMPERATURE | | > 200 | °F |
| FLAMMABLE LIMITS II | N AIR, % BY VOL. | LOWER | N/A | UPPER | N/A | |
| EXTINGUISHING MEDIA | Class A, B, or C F | ire Extin | guisher | • | _ | |
| SPECIAL FIRE FIGHTING PROCEDURES | None | | | | <u>-</u> 1 | |
| UNUSUAL FIRE AND EXPLOSION HAZARD | None | | | | | |
| | V HEALTH HA | AZARD | INFORMATIO | N | | |
| HEALTH HAZARD DAT | A None | | | | | |
| ROUTES OF EXPOSUR | E N/A | | AIR CONTAMINAL | NT CONCEN | NTRATION | IS N/A |
| INHALATION | | DATE | LOCATION | | TLV | TEST RESULTS |
| SKIN CONTACT | | | | | | |
| SKIN ABSORPTI | ON | | | | | |
| EYE CONTACT | | | | | | |
| INGESTION | | | | | | |
| EFFECTS OF OVEREX | | | | | | |
| CHRONIC OVER | EXPOSURE N/A | | | · · · · · · · · · · · · · · · · · · · | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | |
| EMERGENCY AND FIR | ST AID PROCEDURES | | | | ···· | |
| EYES | N/A | | | <u>*-</u> | | |
| SKIN: | | | | | | |
| INHALATION: | | | | | | |
| INGESTION: | | · | | | | |
| NOTES TO PHYSICIAN | | | | | | |

| | EACTIVITY DATA |
|--|---|
| CONDITIONS CONTRIBUTING TO INSTABILITY | |
| None | |
| NCOMPATIBILITY | |
| None | • |
| HAZARDOUS DECOMPOSITION PRODUCTS | |
| None | |
| CONDITIONS CONTRIBUTING TO HAZARDOUS POLY | MERIZATION |
| None | |
| VII SPILL | OR LEAK PROCEDURES |
| STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR | |
| | |
| | |
| NEUTRALIZING CHEMICALS N/A | |
| N/A | |
| WASTE DISPOSAL METHOD | |
| WASTE DISPOSAL METHOD | |
| WASTE DISPOSAL METHOD | ardous materials. |
| WASTE DISPOSAL METHOD Any acceptable process for non-haza | |
| waste disposal method Any acceptable process for non-haza | ardous materials. L PROTECTION INFORMATION |
| NASTE DISPOSAL METHOD Any acceptable process for non-haza VIII SPECIA | |
| NASTE DISPOSAL METHOD Any acceptable process for non-haza VIII SPECIA VENTILATION REQUIREMENTS | |
| WASTE DISPOSAL METHOD Any acceptable process for non-haza VIII SPECIA VENTILATION REQUIREMENTS | |
| NASTE DISPOSAL METHOD Any acceptable process for non-haza VIII SPECIA VENTILATION REQUIREMENTS None | |
| VIII SPECIA VIII SPECIA VENTILATION REQUIREMENTS None SPECIFIC PERSONAL PROTECTIVE EQUIPMENT RESPIRATORY (SPECIFY IN DETAIL) EYE | |
| VIII SPECIAL VENTILATION REQUIREMENTS None SPECIFIC PERSONAL PROTECTIVE EQUIPMENT RESPIRATORY (SPECIFY IN DETAIL) EYE None GLOVES | |
| VIII SPECIA VIII SPECIA VENTILATION REQUIREMENTS None SPECIFIC PERSONAL PROTECTIVE EQUIPMENT None RESPIRATORY (SPECIFY IN DETAIL) EYE None | |

| . IX SPECIAL PRECAUTIONS | | | | | | | |
|---------------------------------|------------------|---------------|-------------|-------------|---------------------------------------|---------------|---|
| PRECAUTIONARY STATEMENTS | , | | | | | | |
| | None | | | | | | |
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| | | | | | | *** | |
| OTHER HANDLIN STORAGE REQUII | G AND REMENTS | | | | | | |
| Store betwee | en 50F and | 80F and prefe | rably betwe | en 30 and 5 | 0% R.H. Rota | ate stock. | |
| | | | | | | · | |
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| <u> </u> | | | | | · · · · · · · · · · · · · · · · · · · | | |
| PREPARED BY: | R. S. Stem | nasty | | | TELEPHONE NO. | (513) 339-056 | 1 |
| | | | | | | | |

11/15/82

DATE:

| RETURN TO: XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX | |
|---|--|
| STREET ADDRESS | |
| CITY STATE ZIP | |
| ATTN | |
| | |

NAME R. S. Sternasty

TELEPHONE NO. (513) 339-0561

| PRODUCT IDEN | TIFICATION | l | | |
|--|--|--|---|--|
| MANUFACTURER'S NAME Brown-Bridge Division REGULAR TELEPHONE NO. (513) 339- EMERGENCY TELEPHONE NO. (513) 339- | | | | |
| Water Street, Troy, | Ohio 45373 | | | |
| hed Kraft, Strong | | | | |
| | | | | |
| HAZARDOUS II | NGREDIENT | ' \$ | | |
| OR COMPONENT | | * | HAZARD DAŢA | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| III PHYSIC | AL DATA | <u> </u> | | |
| N/A | MELTING P | OINT | N/A | |
| N/A | VAPOR PRI | ESSURE | N/A | |
| N/A | SOLUBILIT | Y IN H2O, % | BY WT 32% | |
| N/A | EVAPORAT | ION RATE (| BUTYL ACETATE*1) N/A | |
| PPEARANCE AND ODOR Adhesive coated paper | | | | |
| | Mater Street, Troy, hed Kraft, Strong HAZARDOUS III OR COMPONENT III PHYSICA N/A N/A N/A N/A | Mater Street, Troy, Ohio 45373 hed Kraft, Strong HAZARDOUS INGREDIENT OR COMPONENT N/A N/A N/A N/A N/A N/A SOLUBILIT N/A EVAPORAT | Mater Street, Troy, Ohio 45373 Hed Kraft, Strong HAZARDOUS INGREDIENTS OR COMPONENT N/A N/A N/A N/A N/A SOLUBILITY IN H2O, % N/A EVAPORATION RATE (| |

| RETURN TO: KINGKKXXKXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX |
|---|
| STREET ADDRESS |
| CITY STATE ZIP |
| ATTN |

| | FOR INFORMATION CONCERNING THIS | |
|------|---------------------------------|--|
| | DATA SHEET PLEASE CONTACT | |
| | • | |
| NAME | R. Sternasty | |

(513) 339-0561

| 1 | PRODUCT IDEN | ITIFICATIO | N | |
|-------------------------------|--------------------|------------------|----------------------------|---|
| MANUFACTURER'S NAME Brown-Bri | dge Division | REGULA EMERGE | R TELEPHONE NCY TELEPHO | NO. (513) 339-0561 NE NO. (513) 339-0694 |
| ADDRESS 517 East | Water Street, Troy | , Ohio 4537: | 3 | |
| TRADE NAME 50# Super | Pancake | | | |
| SYNONYMS None | | | | |
| l | I HAZARDOUS I | NGREDIEN | ITS | |
| MATERIA | L OR COMPONENT | | % | HAZARD DATA |
| None | | · | | |
| | | - | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | III PHYSIC | AL DATA | · | |
| BOILING POINT, 760 MM HG | N/A | MELTING | 3 POINT | N/A |
| SPECIFIC GRAVITY (H2O=1) | N/A | VAPOR F | RESSURE | N/A |
| VAPOR DENSITY (AIR=1) | N/A | SOLUBIL | ITY IN H2O, % | |
| % VOLATILES BY VOL. | N/A | EVAPOR | ATION RATE (| BUTYL ACETATE*1) N/A |
| APPEARANCE AND ODOR | | coated paper | | |

| RETURN TO: *********************************** | ZACHKAN |
|---|---------|
| STREET ADDRESS | |
| CITY - STATE - ZIP | |
| ATTN | |

NAME R. Sternasty

TELEPHONE NO. (513) 339-0561

| I PRODUCT IDENTIFICATION | | | | | |
|---|--------------------|-----------------------------------|--|--|--|
| MANUFACTURER'S NAME Brown-Bridge | Division | REGULAR TELEPHO EMERGENCY TELE | DNE NO. (513) 339-0561 PHONE NO. (513) 339-0694 | | |
| ADDRESS 517 East Wate | r Street, Troy, Oh | io 45373 | | | |
| TRADE NAME 50# English F | inish Pancake | | | | |
| SYNONYMS None | | | | | |
| II HA | ZARDOUS ING | REDIENTS | | | |
| MATERIAL OR CO | OMPONENT | % | HAZARD DATA | | |
| None | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | III PHYSICAL [| DATA | | | |
| BOILING POINT, 760 MM HG | N/A | MELTING POINT | N/A | | |
| SPECIFIC GRAVITY (H2O=1) | N/A | VAPOR PRESSURE | N/A | | |
| VAPOR DENSITY (AIR=1) | N/A | SOLUBILITY IN H20 |), % BY WT. 17% | | |
| % VOLATILES BY VOL. | N/A | EVAPORATION RAT | E (BUTYL ACETATE=1) N/A | | |
| APPEARANCE AND ODOR Adhesive coated paper | | | | | |

| RETURN TO: *********************************** | |
|---|--|
| STREET ADDRESS | |
| CITY - STATE - ZIP | |
| ATTN: | |
| | |

FOR INFORMATION CONCERNING THIS
DATA SHEET PLEASE CONTACT

R. S. Sternasty

TELEPHONE NO. (513) 339-0561

| ΙP | RODUCT IDENT | TIFICATION |] | | |
|---|--------------------|---------------------------|--|---------------------|--|
| MANUFACTURER'S NAME Brown-Bridge Division | | REGULAR EMERGENO | REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694 | | |
| ADDRESS 517 East Wa | ater Street, Troy, | | | | |
| TRADE NAME 17# Quicket | tt B/F Pancake | | | | |
| SYNONYMS None | | | | , | |
| JI 1 | HAZARDOUS IN | IGREDIENT | S | | |
| MATERIAL O | R COMPONENT | | 36 | HAZARD DATA | |
| None | | | | | |
| | | | | 100 | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | III PHYSICA | L DATA | | | |
| BOILING POINT, 760 MM HG | N/A | MELTING P | OINT | N/A | |
| SPECIFIC GRAVITY (H20=1) | N/A | VAPOR PRESSURE N/A | | | |
| VAPOR DENSITY (AIR=1) | N/A | SOLUBULTY IN Hace % BY WT | | | |
| % VOLATILES BY VOL | N/A | EVAPORAT | ION RATE IS | UTYL ACETATE=1) N/A | |
| APPEARANCE AND ODOR | Adhesive co | pated paper | | | |

| RETURN TO: INTRE FOLYX COLXA FOR ICOR RESERVA TIONA | |
|--|--|
| STREET ADDRESS | |
| CITY - STATE - ZIP | |
| ATTN: | |

| NAME | R. S. S | ternasty | |
|---------------|---------|----------|--|
| TELEPHONE NO. | (513) | 339-0561 | |

| | PRODUCTIDENTIF | ICATION | |
|--------------------------|--------------------------------|---|----------------------------------|
| MANUFACTURER'S NAME BT | own-Bridge Division | REGULAR TELEPHONE NO. EMERGENCY TELEPHONE NO | (513) 339-0561 (513) 339-0694 |
| ADDRESS 51 | 7 East Water Street, Troy, Oh: | io 45373 | |
| TRADE NAME C1 | imatized Sheet Stock with Remo | ovable Pressure Sensit | ive Adhesive |
| SYNONYMS Not | | | |
| | II HAZARDOUS INGF | REDIENTS | |
| N | MATERIAL OR COMPONENT | % | HAZARD DATA |
| None | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | III PHYSICAL I | DATA | |
| BOILING POINT, 760 MM HG | N/A | MELTING POINT N/A | |
| SPECIFIC GRAVITY (H20=1) | N/A | VAPOR PRESSURE N/A | - |
| VAPOR DENSITY (AIR=1) | N/A | SOLUBILITY IN H2O, % BY WT | < 1% |
| % VOLATILES BY VOL. | N/A , | EVAPORATION RATE (BUTYL | ACETATE=1) N/A |
| APPEARANCE AND ODOR | Adhesive coated paper w | with liner, slight acry | ylic odor. |

| RETURN TO: *********************************** | |
|---|--|
| STREET ADDRESS | |
| CITY - STATE - ZIP | |
| ATTN: | |
| | |

| NAME | R. | Sternast | у | |
|-----------|-----|----------|----------|--|
| TELEPHONE | NO. | (513) | 339-0561 | |

| <u> </u> | PRODUCT IDENTI | FICATION | | |
|---------------------------------------|-----------------------|--|-----------------------|--------------|
| MANUFACTURER'S NAME Brown-Brid | dge Division | REGULAR TE EMERGENCY | | |
| ADDRESS 517 East W | Water Street, Troy, C | Ohio 45373 | | |
| TRADE NAME 60# C1S L | itho Pancake | | <u>.</u> | |
| SYNONYMS None | | . <u>-</u> | | |
| | HAZARDOUS INC | GREDIENTS | | |
| MATERIAL | OR COMPONENT | | % | HAZARD DATA |
| None | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | III PHYSICAL | . DATA | | |
| BOILING POINT, 760 MM HG | N/A | MELTING POH | NT | N/A |
| SPECIFIC GRAVITY (H ₂ O=1) | N/A | VAPOR PRESS | URE | N/A |
| VAPOR DENSITY (AIR=1) | N/A | SOLUBILITY | N H ₂ O, ' | % BY WT. 14% |
| % VOLATILES BY VOL. | N/A | EVAPORATION RATE (BUTYL ACETATE*1) N/A | | |
| APPEARANCE AND ODOR | Adhesive coa | · · · · · · | | |

| RETURN TO: XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX | |
|---|--|
| STREET ADDRESS | |
| CITY - STATE - ZIP | |
| ATTN: | |

| NAME R. | S. Sternasty | |
|--------------|----------------|--|
| TELEPHONE NO | (513) 339-0561 | |

| | I PRODUCT IDENT | TIFICATION | | |
|-----------------------------|-----------------------|-----------------------|-------------------------|-----------------------|
| MANUFACTURER'S NAME Brown-B | ridge Division | REGULAR T EMERGENC | | |
| ADDRESS 517 Eas | t Water Street, Troy, | Ohio 45373 | | |
| TRADE NAME 60# Kro | mekote Pancake | | = | |
| SYNONYMS None | | | | |
| | II HAZARDOUS IN | IGREDIENT | S | |
| MATER | IAL OR COMPONENT | | % | HAZARD DATA |
| None | | | | |
| | | | | |
| | | | _ | |
| | | | | |
| | | | | |
| | | | | |
| | III PHYSICA | L DATA | | |
| BOILING POINT, 760 MM HG | N/A | MELTING PO | TAIC | N/A |
| SPECIFIC GRAVITY (H20=1) | N/A | VAPOR PRE | SSURE | N/A |
| VAPOR DENSITY (AIR=1) | N/A | SOLUBILITY | 'IN H ₂ O, 9 | 6 BY WT. 14% |
| % VOLATILES BY VOL | N/A | EVAPORATI | ON RATE | (BUTYL ACETATE=1) N/A |
| APPEARANCE AND ODOR | Adhesive co | ated paper. | | |

| RETURN TO: .YKNNBERKXXXXKARKXXXXREXXXXXXXXXXXXXXXXXXXXXXX |
|---|
| STREET ADDRESS |
| CITY - STATE - ZIP |
| ATTN: |

| NAME R. | Sternasty |
|--------------|----------------|
| | |
| TELEPHONE NO | (513) 339-0561 |

| I F | PRODUCT IDEN | NTIFICATION | 1 | |
|--------------------------------|--------------------|--------------------|-------------------------|---|
| MANUFACTURER'S NAME Brown-Brid | lge Division | REGULAR EMERGEN | TELEPHONE CY TELEPHO | NO. (513) 339-0561 NE NO. (513) 339-0694 |
| ADDRESS 517 East W | later Street, Troy | , Ohio 45373 | | |
| TRADE NAME 50# Blue M | fedium Pancake | · | | |
| SYNONYMS None | | | | |
| | HAZARDOUS I | NGREDIENT | rs | |
| MATERIAL | OR COMPONENT | | % | HAZARD DATA |
| None | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | ···· | | |
| | III PHYSIC | AL DATA | <u> </u> | |
| BOILING POINT, 760 MM HG | N/A | MELTING | POINT | N/A |
| SPECIFIC GRAVITY (H2O=1) | N/A | VAPOR PR | ESSURE | N/A |
| VAPOR DENSITY (AIR=1) | N/A | \$OLUBILI1 | Y IN H2O, % | BY WT. 17% |
| % VOLATILES BY VOL. | N/A | EVAPORA | TION RATE (| BUTYL ACETATE=1) N/A |
| APPEARANCE AND ODOR | | coated paper | | |

| RETURN TO: KINDBERKXXCXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX |
|--|
| STREET ADDRESS |
| CITY · STATE · ZIP |
| ATTN: |
| |

FOR INFORMATION CONCERNING THIS
DATA SHEET PLEASE CONTACT

NAME R. Sternasty

TELEPHONE NO. __(513) 339-0561

| I PRODUCT IDENTIFICATION | | | | |
|---|--|--|--|--|
| MANUFACTURER'S NAME Brown-Bridge Division | REGULAR TELEPHONE NO. (513) 339-0561 EMERGENCY TELEPHONE NO. (513) 339-0694 | | | |
| ADDRESS 517 East Water Street, Troy, | Ohio 45373 | | | |
| TRADE NAME Grey Holland, Strong Gummed | | | | |
| SYNONYMS None | | | | |
| II HAZARDOUS IN | GREDIENTS | | | |
| MATERIAL OR COMPONENT | % HAZARD DATA | | | |
| None | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| III PHYSICA | L DATA | | | |
| BOILING POINT, 760 MM HG N/A | MELTING POINT N/A | | | |
| SPECIFIC GRAVITY (H2O=1) N/A | VAPOR PRESSURE N/A | | | |
| VAPOR DENSITY (AIR=1) N/A | SOLUBILITY IN H2O, % BY WT. 21% | | | |
| % VOLATILES BY VOL. N/A | EVAPORATION RATE (BUTYL ACETATE=1) N/A | | | |
| APPEARANCE AND ODOR Adhesive co | ated cloth. | | | |

| IX SPECIAL PRECAUTIONS | |
|--|---|
| PRECAUTIONARY STATEMENTS | • |
| Contains Animal Protien | J |
| • | |
| | |
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| | |
| | |
| | |
| | |
| | |
| OTHER HANDLING AND STORAGE REQUIREMENTS | |
| | |
| Store between 50F and 80F and preferably between 30 and 50% R.H. Rotate stock. | |
| | |
| | |
| | |
| | |
| | |
| PREPARED BY: R. S. Sternasty TELEPHONE NO. (513) 339-0561 | |
| ADDRESS: Brown-Bridge Division,517 East Water Street, Troy, Ohio 45373 |) |
| DATE: 11/15/82 | |

| RETURN TO: XXXXXEERXXXXXXXXXXXXXXXXXXXXXXXXXXXXX | |
|---|--|
| STREET ADDRESS | |
| CITY - STATE - ZIP | |
| ATTN: | |
| | |

NAME R. S. Sternasty

TELEPHONE NO. (513) 339-0561

| I PRODUCT IDENTIFICATION | | | | |
|---|---------------------------------------|-----------------------|--------------------------|--|
| MANUFACTURER'S NAME Brown-Bridge Divi | sion | REGULAR T EMERGENC | ELEPHONE Y TELEPHO | NO. (513) 339-0561 DNE NO. (513) 339-0694 |
| ADDRESS 517 East Water St | reet, Troy, Ohi | o 45373 | | |
| TRADE NAME White Cambric, St | rong Gummed | <u> </u> | | |
| SYNONYMS None | | | | |
| II HAZA | RDOUS INGR | EDIENT | S | |
| MATERIAL OR COMPONENT % HAZARD DATA | | | | |
| None | · | | | |
| | | 1 | | |
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| 11 | PHYSICAL D | ATA | | |
| BOILING POINT, 760 MM HG | N/A | MELTING PO | TAIC | N/A |
| SPECIFIC GRAVITY (H ₂ O=1) | N/A | VAPOR PRE | SSURE | N/A |
| VAPOR DENSITY (AIR=1) | N/A | SOLUBILITY | ' IN H ₂ O, % | BY WT 24% |
| % VOLATILES BY VOL. | N/A | EVAPORATI | ON RATE (| BUTYL ACETATE=1) N/A |
| APPEARANCE AND ODOR Adhesive coated cloth | | | | |

| IX SPECIAL PRECAUTI | ONS |
|---|------------------------------|
| PRECAUTIONARY STATEMENTS | |
| Contains Animal Protein | |
| | • |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| OTHER HANDLING AND STORAGE REQUIREMENTS | |
| Store between 50F and 80F and preferably between 30 and | 50% R.H. Rotate stock. |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| PREPARED BY: R. S. Sternasty | TELEPHONE NO. (513) 339-0561 |
| ADDRESS: Brown-Bridge Division,517 East Water Street, | Troy, Ohio 45373 |

11/15/82

DATE:

| RETURN TO: KIMBERLY-CLARK CORPORATION | |
|---------------------------------------|--|
| STREET ADDRESS | |
| CITY - STATE - ZIP | |
| ATTN: | |
| | |

NAME R. Sternasty

TELEPHONE NO. (513) 339-0561

| | I PRODUCT IDEN | TIFICATION | V | |
|---|----------------------------|--|-------------------------|--------------------------------------|
| MANUFACTURER'S NAME | Brown-Bridge Division | REGULAR | TELEPHON | |
| | Kimberly-Clark Corp. | | | ONE NO. (513) 339-0694 |
| ADDRESS | 517 East Water Street, Tro | y, Ohio 4537 | 3 | |
| TRADE NAME | .005 Natural Kraft, Acid F | ree Gum | | |
| SYNONYMS | None | | | |
| | II HAZARDOUS II | NGREDIEN | rs | |
| | MATERIAL OR COMPONENT | | % | HAZARD DATA |
| Natural Kraft Pa | per | | 76.5 | Considered Non- Hazardous |
| Animal protein b | pased adhesive | | 23.5 | Considered Non-Hazardous |
| | | | | |
| <u> </u> | | | | |
| | | | | |
| | III PHYSIC | AL DATA | | |
| BOILING POINT, 760 MM HG | 3 N/A | MELTING | POINT | N/A |
| |) N/A | VAPOR PRESSURE N/A | | |
| SPECIFIC GRAVITY (H ₂ 0=1 | <u> </u> | SOLUBILITY IN H ₂ O, % BY WT. 23.5% | | |
| SPECIFIC GRAVITY (H ₂ O=1 VAPOR DENSITY (AIR=1) | N/A | SOLUBILI | TY IN H ₂ O, | % BY WT. 23.5% |
| | | | | % BY WT. 23.5% (BUTYL ACETATE=1) N/A |

| VI REACTIVITY DATA |
|--|
| CONDITIONS CONTRIBUTING TO INSTABILITY |
| None |
| INCOMPATIBILITY |
| None |
| HAZARDOUS DECOMPOSITION PRODUCTS CO ₂ , CO, and possibly oxides of nitrogen. |
| 2, co, and possibly oxides of interegent |
| CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION |
| None |
| |
| VII SPILL OR LEAK PROCEDURES |
| STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED N/A |
| |
| |
| NEUTRALIZING CHEMICALS N/A |
| M/ A |
| WASTE DISPOSAL METHOD Any acceptable process for non-hazardous materials. |
| |
| VIII SPECIAL PROTECTION INFORMATION |
| VENTILATION REQUIREMENTS |
| None |
| |
| SPECIFIC PERSONAL PROTECTIVE EQUIPMENT |
| None RESPIRATORY (SPECIFY IN DETAIL) |
| EYE None |
| GLOVES None |
| OTHER CLOTHING AND EQUIPMENT None |
| |
| |

R. S. Sternasty

ADDRESS:

Brown-Bridge Division, 517 East Water Street, Troy, Ohio

7/31/84

(513) 339-0561

| RETURN TO: KIMBERLY-CLARK CORPORATION | |
|---------------------------------------|--|
| STREET ADDRESS | |
| CITY - STATE - ZIP | |
| ATTN: | |
| | |

| NAME | R. Sternasty | |
|---------------|----------------|--|
| TELEPHONE NO. | (513) 339-0561 | |

| MANUFACTURER'S NAME MANUFACTURER'S NAME MADDRESS 517 East Water Street, Troy, Ohio 45373 TRADE NAME .010 Natural Kraft, Acid Free Gum SYNONYMS None II HAZARDOUS INGREDIENTS MATERIAL OR COMPONENT Natural Kraft Paper Animal protein based adhesive III PHYSICAL DATA BOILING POINT, 760 MM HG N/A VAPOR DENSITY (AIR-1) N/A N/A MELTING POINT N/A SOLUBILITY IN H2O. % BY WT. 15.3 SASO-0694 ASSOLUBILITY IN H2O. % BY WT. 15.3 SASO-0694 SASOLUBILITY IN H2O. % BY WT. 15.3 SASOLUBILITY IN H2O. % BY WT. 15.3 N/A EVAPORATION RATE (BUTYL ACETATE-1) N/A | I PRODUCT IDENTIFICATION | | | | | | |
|---|---|-----------------------------|--------------|----------|---|--|--|
| TRADE NAME .010 Natural Kraft, Acid Free Gum SYNONYMS None II HAZARDOUS INGREDIENTS MATERIAL OR COMPONENT & HAZARD DATA Natural Kraft Paper 84.7 Considered Non-Hazardous Animal protein based adhesive 15.3 Considered Non-Hazardous III PHYSICAL DATA BOILING POINT, 780 MM HG N/A MELTING POINT N/A SPECIFIC GRAVITY (H20-1) N/A VAPOR PRESSURE N/A VAPOR DENSITY (AIR-1) N/A SOLUBILITY IN H20. % BY WT. 15.3 SYNOLUBILITY IN H20. % BY WT. 15.3 | MANUFACTURER'S NAME | | | | IE NO. (\$13) 339-0561 ONE NO. (\$13) 339-0694 | | |
| SYNONYMS None II HAZARDOUS INGREDIENTS MATERIAL OR COMPONENT Natural Kraft Paper Natural Kraft Paper Animal protein based adhesive III PHYSICAL DATA BOILING POINT, 760 MM HG N/A SPECIFIC GRAVITY (H ₂ O-1) N/A VAPOR DENSITY IAIR-1) N/A SOLUBILITY IN H ₂ O, *8 PWT. SYNOLUBILITY IN H ₂ O, *8 PWT. | ADDRESS | | | | | | |
| II HAZARDOUS INGREDIENTS MATERIAL OR COMPONENT Natural Kraft Paper Non-Hazardous Considered Non-Hazardous Considered Non-Hazardous Considered Non-Hazardous III PHYSICAL DATA BOILING POINT, 760 MM HG N/A MELTING POINT N/A VAPOR PRESSURE N/A VAPOR DENSITY (AIR=1) N/A SOLUBILITY IN H2O, % BY WT. 15.3 | TRADE NAME | .010 Natural Kraft, Acid Fr | ree Gum | | | | |
| Natural Kraft Paper Natural Kraft Paper Animal protein based adhesive III PHYSICAL DATA BOILING POINT, 760 MM HG N/A SPECIFIC GRAVITY (H20=1) N/A VAPOR DENSITY (AIR=1) N/A SOLUBILITY IN H20, % BY WT. 15.3 Considered Non-Hazardous Considered Non-Hazardous Non-Haz | SYNONYMS | None | | | | | |
| Natural Kraft Paper 84.7 Considered Non-Hazardous Considered Non-Hazardous Considered Non-Hazardous III PHYSICAL DATA BOILING POINT, 760 MM HG N/A MELTING POINT N/A SPECIFIC GRAVITY (H ₂ O-1) N/A VAPOR PRESSURE N/A VAPOR DENSITY (AIR-1) N/A SOLUBILITY IN H ₂ O, % BY WT. 15.3 | | II HAZARDOUS II | NGREDIENTS | | | | |
| Natural Kraft Paper Animal protein based adhesive III PHYSICAL DATA BOILING POINT, 760 MM HG SPECIFIC GRAVITY (H20=1) VAPOR DENSITY (AIR=1) N/A SOLUBILITY IN H20, % BY WT. 15.3 SUBSECTION PATE (BUTTY ACCETATED) N/A SUBSECTION PATE (BUTTY ACCETATED) | | MATERIAL OR COMPONENT | | % | HAZARD DATA | | |
| Animal protein based adhesive III PHYSICAL DATA BOILING POINT, 760 MM HG N/A SPECIFIC GRAVITY (H ₂ O=1) N/A VAPOR DENSITY (AIR=1) N/A SOLUBILITY IN H ₂ O, % BY WT. 15.3 | Natural Kraft Pa | per | 84 | 1.7 | Non-Hazardous | | |
| BOILING POINT, 760 MM HG N/A SPECIFIC GRAVITY (H ₂ O=1) N/A VAPOR PRESSURE N/A VAPOR DENSITY (AIR=1) N/A SOLUBILITY IN H ₂ O, % BY WT. 15.3 | Animal protein b | ased adhesive | 1! | 5.3 | | | |
| BOILING POINT, 760 MM HG N/A SPECIFIC GRAVITY (H ₂ O=1) N/A VAPOR PRESSURE N/A VAPOR DENSITY (AIR=1) N/A SOLUBILITY IN H ₂ O, % BY WT. 15.3 | | | | | | | |
| BOILING POINT, 760 MM HG N/A SPECIFIC GRAVITY (H ₂ O=1) N/A VAPOR PRESSURE N/A VAPOR DENSITY (AIR=1) N/A SOLUBILITY IN H ₂ O, % BY WT. 15.3 | | | | | | | |
| BOILING POINT, 760 MM HG N/A SPECIFIC GRAVITY (H ₂ O=1) N/A VAPOR PRESSURE N/A VAPOR DENSITY (AIR=1) N/A SOLUBILITY IN H ₂ O, % BY WT. 15.3 | | | | | | | |
| BOILING POINT, 760 MM HG N/A SPECIFIC GRAVITY (H ₂ O=1) N/A VAPOR PRESSURE N/A VAPOR DENSITY (AIR=1) N/A SOLUBILITY IN H ₂ O, % BY WT. 15.3 | | | | | | | |
| SPECIFIC GRAVITY (H ₂ O=1) N/A VAPOR PRESSURE N/A VAPOR DENSITY (AIR=1) N/A SOLUBILITY IN H ₂ O, % BY WT. 15.3 | | III PHYSICA | AL DATA | | | | |
| VAPOR DENSITY (AIR=1) N/A SOLUBILITY IN H ₂ O, % BY WT. 15.3 | BOILING POINT, 760 MM HG | N/A | MELTING POIN | IT. | N/A | | |
| % VOLATUES BY VOL | SPECIFIC GRAVITY (H ₂ O=1) N/A VAPOR PRESSURE N/A | | N/A | | | | |
| % VOLATILES BY VOL. N/A EVAPORATION RATE (BUTYL ACETATE=1) N/A | | | | % BY WT. | | | |
| | % VOLATILES BY VOL. | N/A | EVAPORATION | RATE | (BUTYL ACETATE=1) N/A | | |
| APPEARANCE AND ODOR Adhesive coated paper | | Adhesive coated | paper | | | | |

| RETURN TO: KIMBERLY-CLARK CORPORATION | | | |
|---------------------------------------|--|--|--|
| STREET ADDRESS | | | |
| CITY - STATE - ZIP | | | |
| ATTN: | | | |
| | | | |

P. Stomasty

TELEPHONE NO. (513) 339-0561

| I PRODUCT IDENTIFICATION | | | | |
|---|---|--|-----------------------------|--|
| MANUFACTURER'S NAME | Brown-Bridge Division Kimberly-Clark Corp. | REGULAR TELEPHON EMERGENCY TELEPH | | |
| ADDRESS | 517 East Water Street, Troy | . Ohio 45373 | | |
| TRADE NAME | .007 Natural Kraft, Acid Fr | ee Gum | | |
| SYNONYMS | None | | | |
| | II HAZARDOUS II | NGREDIENTS | | |
| MATERIAL OR COMPONENT % HAZARD DATA | | | | |
| Natural Kraft Paper | | | Considered Non-Hazardous | |
| Animal protein b | ased adhesive | 18.3 | Considered Non-Hazardous | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | III PHYSICA | AL DATA | | |
| BOILING POINT, 760 MM HG | N/A | MELTING POINT N/A | | |
| SPECIFIC GRAVITY (H2O=1 | N/A | VAPOR PRESSURE N/A | | |
| VAPOR DENSITY (AIR=1) | N/A | SOLUBILITY IN H ₂ O, % BY WT. | | |
| % VOLATILES BY VOL. | N/A | EVAPORATION RATE (BUTYL ACETATE=1) | | |
| APPEARANCE AND ODOR Adhesive coated paper | | | | |

| RETURN TO: KIMBERLY-CLARK CORPORATION | | | |
|---------------------------------------|--|--|--|
| STREET ADDRESS | | | |
| CITY - STATE - ZIP | | | |
| ATTN: | | | |

| FOR INFORMATION CONCERNING THIS |
|---------------------------------|
| DATA SHEET PLEASE CONTACT |
| |

| NAME | R. Sternasty | | |
|---------------|----------------|--|--|
| TELEPHONE NO. | (513) 339-0561 | | |

| I PRODUCT IDENTIFICATION | | | | | |
|---|---|--|-----------------------------|--|--|
| MANUFACTURER'S NAME | Brown-Bridge Division Kimberly-Clark Corp. | REGULAR TELEPHO EMERGENCY TELEP | | | |
| ADDRESS | 517 East Water Street, Tro | y, Ohio 45373 | | | |
| TRADE NAME | TRADE NAME Kraft _ Acid Free Gum | | | | |
| SYNONYMS | None | | | | |
| | II HAZARDOUS I | NGREDIENTS | | | |
| | MATERIAL OR COMPONENT | % | HAZARD DATA | | |
| Natural Kraft Paper | | | Considered Non-Hazardous | | |
| Animal protein based adhesive | | 11,2 | Considered Non-Hazardous | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | III PHYSIC | AL DATA | | | |
| BOILING POINT, 760 MM HG | N/A | MELTING POINT N/A | | | |
| SPECIFIC GRAVITY (H20=1) | N/A | VAPOR PRESSURE N/A | | | |
| VAPOR DENSITY (AIR=1) | N/A | SOLUBILITY IN H ₂ O, % BY WT. | | | |
| % VOLATILES BY VOL. | N/A | EVAPORATION RATE (BUTYL ACETATE=1) | | | |
| APPEARANCE AND ODOR Adhesive coated paper | | | | | |

| RETURN TO: KIMBERLY-CLARK CORPORATION | |
|---------------------------------------|--|
| STREET ADDRESS | |
| CITY - STATE - ZIP | |
| ATTN: | |
| | |

| FOR INFORMATION CONCERNING TH | HS |
|-------------------------------|----|
| DATA SHEET PLEASE CONTACT | |

| NAME | R. Sternasty | |
|---------------|----------------|--|
| TELEPHONE NO. | (513) 339-0561 | |

| PRODUCT IDENTIFICATION | | | | | | |
|---|--|--|------|-------|----------------------------------|--|
| MANUFACTURER'S NAME | Brown-Bridge Division Kimberly-Clark Corp. | REGULAR EMERGENO | | | (513) 339-0561 (513) 330-0694 | |
| ADDRESS 517 East Water Street, Troy, Ohio 45373 | | | | | | |
| TRADE NAME | .005 Fish Paper. Acid Free (| | | | | |
| SYNONYMS | None | | | | | |
| | II HAZARDOUS IN | GREDIENT | S | | | |
| | MATERIAL OR COMPONENT | | % | | HAZARD DATA | |
| Cotton namer tre | ated with Zinc chloride | | 81.9 | | idered Jazardous | |
| Animal protein b | | | 18.1 | Consi | idered Jazardous | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | III PHYSICA | L DATA | | | | |
| BOILING POINT, 760 MM HG | N/A | MELTING P | OINT | N/A | | |
| SPECIFIC GRAVITY (H ₂ O=1) | N/A | VAPOR PRESSURE N/A | | | | |
| VAPOR DENSITY (AIR=1) | N/A SOLUBILITY IN H2O, % BY WT. 18.1 | | | 18.1 | | |
| % VOLATILES BY VOL. | N/A | EVAPORATION RATE (BUTYL ACETATE=1) N/A | | | | |
| APPEARANCE AND ODOR Adhesive coated vulcanized fiber. | | | | | | |

Exhibit 4

Previous and Current Addresses of Haulers Used by Brown-Bridge to Transport Waste Materials to the Miami County Incinerator Landfill

| | HAULER | PREVIOUS ADDRESS | CURRENT ADDRESS |
|----|---------------------------|---|--------------------------|
| 1. | Jay Foster | 228 South Oak Street Troy, Ohio 45373 | SAME |
| 2. | Raymond Ferguson | Route 2, Box 75 Lebanon, Virginia 24266 | DECEASED |
| 3. | Avey Services, Inc. | 430 South Crawford Street Troy, Ohio 45373 | SAME |
| 4. | Sussman, Inc. | 600 West Statler Road Piqua, Ohio 45356 | NO LONGER IN BUSINESS |

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